OCTOBER 31, 1955 "Weeks Report Isn't Perfect" . . . p. 24

RAILWAY AGE

One of Five Simmons-Boardman Railway Publications

Good Start for Dependable Stops . . .

WROUGHT IRON PIPE INSTALLED IN AIR BRAKE SYSTEMS ON 500 MODERN NORTHERN PACIFIC REFRIGERATOR CARS

List all the improved design features incorporated into Northern Pacific's new fleet of 500 refrigeration cars and you would end up with several pages . . . all the way from an increased truck capacity of 24% to greater door width which speeds up lift truck loading and unloading operations. A memo from the Line's Mechanical Engineer summed it up this way . . . "these cars are designed to better meet present day operating conditions, reduce maintenance, and provide more years of better car service."

Specific evidence of these lower maintenance and longer service life objectives is the use of wrought iron for the air brake systems on all cars. More than 22,000 feet of this time-tested material was used to safeguard the all-important braking system against premature failure caused by corrosion and fatigue.

The cars, representing an investment of approximately five million dollars, were built at Northern Pacific's Brainerd, Minnesota, Car Shops.

You'll find in our Special Report, *The Use of Wrought Iron for Air Brake Piping*, complete details on this material's resistance against shock and fatigue stresses, its excellent mechanical properties, and its ability to resist corrosion. Write for your copy.

A. M. Byers Company, Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, San Francisco. International Division: New York, N. Y.

Available in Canada and throughout the World.

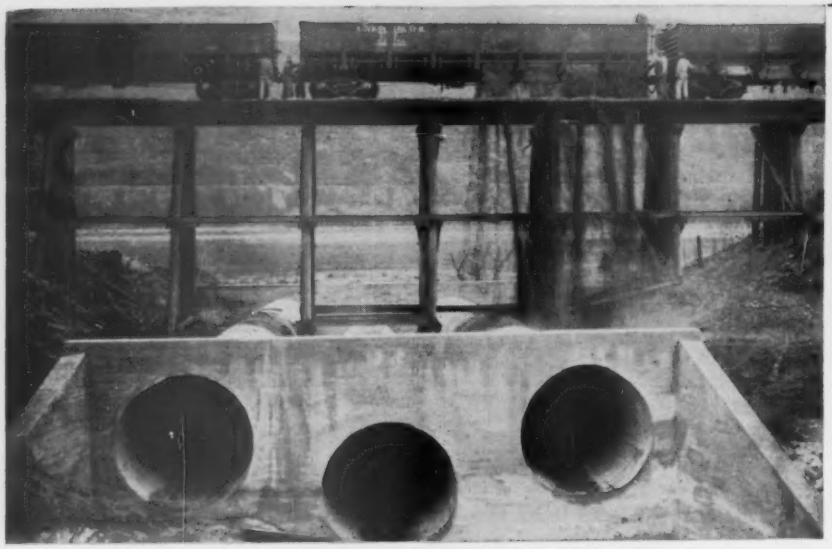
BYERS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

WROUGHT IRON

TUBULAR AND HOT ROLLED PRODUCTS

ELECTRIC FURNACE QUALITY STEEL PRODUCTS



Picture taken in 1932 shows placement of fill from cars on the trestle. The three lines of Armco MULTI-PLATE Pipe are each 120 inches in diameter.

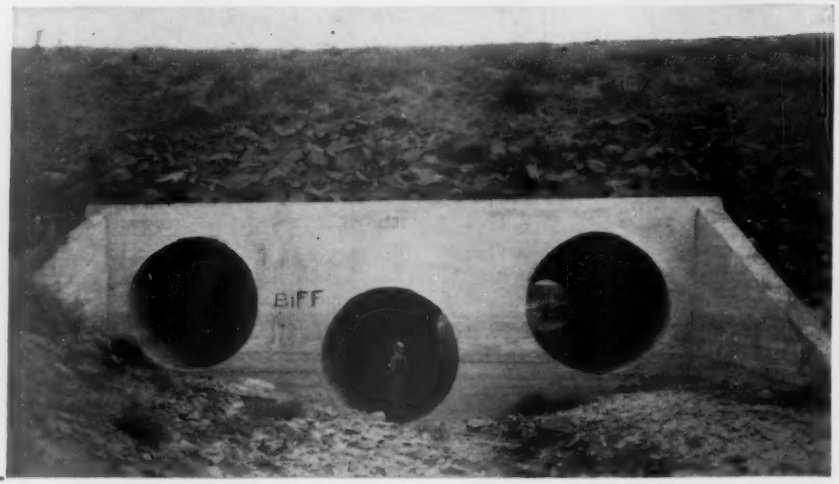
23 Years Show Value of Trestle Replacement with Armco MULTI-PLATE

Three lines of Armco MULTI-PLATE Pipe replaced a Union Pacific trestle near Walker, Washington, in 1932. They eliminated the continuing maintenance of the old structure and provided all the advantages of laying the track on solid ground. Fire was no longer a hazard.

A recent inspection showed the MULTI-PLATE to be in good condition, with every indication of many more years of useful service.

Bridging streams and ravines with Armco Drainage Structures is economical and efficient. Not only do you save maintenance but corrugated metal design assures adequate strength for dead weight under high fills or impact and vibration of heavy traffic. What's more, there is no danger of obsolescence. Armco Structures can always be extended or moved to a new location without loss of materials. There is a size, type, gage and shape for practically every drainage need. Write us for complete data. Armco Drainage & Metal Products, Inc., 5305 Curtis Street, Middletown, Ohio. Subsidiary of Armco Steel Corporation. In Canada: write Guelph, Ontario. Export: The Armco International Corporation.

ARMCO DRAINAGE STRUCTURES



Recent picture shows the structure as it is today — continuing to provide dependable service, minus the maintenance expense of the old trestle.

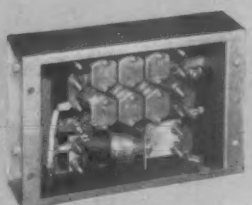
This sectional view of the FR-16 Rubber Draft Gear illustrates the 16 rubber units of patented construction. The bonding of the two metal plates in each unit to the rubber provides capacity and absorption without damage to the rubber.

NEW! LOW COST!

RECEIVER, transmitter and power supply are plug-in type, each assembled in rugged steel case.

CONTROL STATION includes microphone, indicating light, volume control, and squelch adjustment.

LOUDSPEAKER is a heavy-duty marine type with an input rating of 20 watts.



OUTPUT TRANSFORMER UNIT includes transmitting loop tuning capacitors, and impedance matching transformer.

UNION I.T.C.

Lightweight, adaptable ... and proved reliable

ALL NEW—LOW COST 2-way UNION I.T.C. is modern in design, compact, lightweight and rugged. It is easily mounted and retains all the efficiency and advantages of previous UNION Inductive Train Communication Systems, proved thoroughly by years of yard, road and branch line service.

INSTALLATION is quick and problem free. Compactness and light weight of the equipment make it easy to find convenient mounting space for the shock-mounted equipment rack for train carried apparatus. At the wayside station the rack can be wall mounted or placed on a table or shelf. And no antenna is required . . . the output connections are made directly to the line wires . . . this feature simplifies installation and permits ready relocation to meet changing conditions in railroad operation.

MAINTENANCE is simple and convenient. The small size of the plug-in units makes them easy to handle and a quick-opening, lock-in feature provides ready accessibility. The individual plug-in units are interchangeable for wayside and mobile installations . . . thus simplifying testing or replacement.

DESIGNED FOR RAILROADS by men who know railroad requirements, the new UNION I.T.C. is universal in application and was developed to meet the need for simple, compact and reliable communication equipment at a new low cost.

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK · CHICAGO · ST. LOUIS · SAN FRANCISCO

RAILWAY AGE

EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y., AND 79 WEST MONROE STREET, CHICAGO 3, ILL.

EDITOR ..... James G. Lyne
EDITORIAL CONSULTANT ..... Samuel O. Dunn
EXECUTIVE EDITOR ..... William H. Schmidt, Jr.
MANAGING EDITOR ..... C. B. Tavenner
CONSULTING EDITOR ..... C. B. Peck
NEWS & FINANCIAL ..... Fred C. Miles
WASHINGTON EDITOR ..... Walter J. Taft
WESTERN EDITOR ..... M. H. Dick
TRAFFIC & TRANSPORTATION ..... Joe W. Kizzia
John W. Milliken Gardner C. Hudson
MECHANICAL ..... H. C. Wilcox
E. L. Woodward, G. J. Weihofen, F. N. Houser, Jr.
ELECTRICAL ..... Alfred G. Oehler
ENGINEERING ..... M. H. Dick
R. E. Dove H. H. Hall R. F. Lindsay
SIGNALING & COMMUNICATIONS
John H. Dunn Robert W. McKnight
REGIONAL NEWS
New York ..... Robert B. Keane
Chicago ..... Thomas H. Desnoyers
ASSOCIATE EDITOR ..... Charles Layng
LIBRARIAN ..... Edith C. Stone
EDITORIAL ASSISTANTS ..... Ann Ortlinghaus
June Meyer Shirley Smith Wanda Brown

BRANCH OFFICES
WASHINGTON 4, D. C., 1081 National Press building
CLEVELAND 13, OHIO, Terminal Tower
PORTLAND 5, ORE., Terminal Sales bldg.
LOS ANGELES 17, CAL., 1127 Wilshire blvd.
SAN FRANCISCO 4, CAL., 244 California st.
DALLAS 19, TEX., 3908 Lemmon avenue
CORAL GABLES, FLA., 1809 Ponce de Leon blvd.

FOREIGN REPRESENTATIVES
LONDON E.C. 2, England—Sibley-Field Publishing Company, Ltd., 48 London Wall
FRANKFURT AM MAIN (16), West Germany—Linder Presse Union GMBH, International Advertising Agency, Wittelsbacher Allee 60

DIRECTOR ADVERTISING SALES
J. S. Crane, *New York*
SALES MANAGER
J. R. Thompson, *Chicago*
DISTRICT SALES MANAGERS
H. H. Melville, *Cleveland*
C. W. Merriken, *New York*
DIRECTOR OF PRODUCTION
M. J. Figa, Jr., *New York*

Published weekly by the Simmons-Boardman Publishing Corporation at Orange, Conn., and entered as second class matter at Orange, Conn., under the Act of March 3, 1879. James G. Lyne, president. Arthur J. McGinnis, executive vice-president and treasurer. Samuel O. Dunn, chairman emeritus. J. S. Crane, vice-president and secretary.

SUBSCRIPTION TO RAILROAD EMPLOYEES ONLY IN U. S., U. S. POSSESSIONS, CANADA AND MEXICO, $4 ONE YEAR, $6 TWO YEARS, PAYABLE IN ADVANCE AND POSTAGE FREE. TO RAILROAD EMPLOYEES ELSEWHERE IN THE WESTERN HEMISPHERE, $10 A YEAR; IN OTHER COUNTRIES, $15 A YEAR—TWO-YEAR SUBSCRIPTIONS DOUBLE ONE-YEAR RATE. SINGLE COPIES 50c, EXCEPT SPECIAL ISSUES $1. CONCERNING SUBSCRIPTIONS ADDRESS ROBERT G. LEWIS, VICE-PRESIDENT, 30 CHURCH ST., NEW YORK 7.

October 31, 1955 **Vol. 139, No. 18**

Week at a Glance

"Safety is management's job," Pullman President Chester Harding declared in sounding the keynote of the meeting of the railroad section of the recent annual National Safety Congress. 7

More rigid brake regulations for heavy trucks, designed to reduce the numerous "loss-of-control" accidents in which these vehicles are involved, are about to be proposed by the ICC. 7

Locomotives on order by Class I railroads October 1 totaled 816, compared to 115 a year ago. 16

FORUM: Britain's ahead in transportation statesmanship. In that country, unlike the U.S., the railways are given freedom to compete for traffic like other agencies of transportation. Here, despite our claims we are so progressive, we still hold on to an outdated system of regulation that prevents common carriers from getting the full benefit of inherent advantages. 23

The "Weeks Report" isn't perfect, says Professor Dudley Pegrum in a provocative article carefully analyzing that proposal to restate the national transportation policy. It is a "start in the right direction," but it isn't clear about the difference between competition *within* types of transportation and competition *between* types of transportation. It dodges the "public aids" question. It fails to implement fully the principle that "it is the public that needs protection, not the carriers." 24

Samuel Rea shop begins production on the Pennsylvania, making this $12-million investment a contributor to efficient heavy repair of freight cars. 29

How signaling is improving — that's what the annual meeting of the AAR Signal Section talked about. Technical advances continue to come along in an unbroken

Simtex | blends for uniformly long wear

At Simtex Mills two samples, taken from opposite sides of the bale, are split. One half of each goes to the cotton classer to be graded by hand. The other half is sent to the Simtex laboratory, where it is graded on highly sensitive instruments for fiber length, fineness, breaking strength. As a result of these operations, Simtex cotton is absolutely uniform in its high quality.

The most comprehensive Quality Control program in the tablecloth industry is that set up by Simtex Mills. Scientific blending is one of the steps in this program which assure remarkable uniformity in the quality of Simtex tablecloths. What are the advantages *to you?* Precisely these:

> Lustre that lasts—texture that *stays* luxurious—a hand that remains fine and crisp through *countless launderings* and endless *use.* Cloth for cloth, Simtex outlives all other napery. Simtex *predictable wear-life* lets you budget your replacements in advance: Simtex quality pays off in economy.

It's smart housekeeping to specify Simtex tablecloths and napkins—with your own distinctive crest, if you wish. *You can always count on Simtex quality.*

Simtex **Mills,** Division of Simmons Co.,
Empire State Bldg., New York 1, N.Y.

ALL COTTON IS CARDED — ONLY THE BEST IS COMBED

Current Statistics

Operating revenues, eight months	
1955	$6,589,987,829
1954	6,194,297,536
Operating expenses, eight months	
1955	$4,971,230,325
1954	4,939,611,628
Taxes, eight months	
1955	$ 718,704,132
1954	584,152,273
Net railway operating income, eight months	
1955	$ 732,547,087
1954	500,672,194
Net income, estimated, eight months	
1955	$ 582,000,000
1954	349,000,000
Average price railroad stocks	
October 25, 1955	91.65
October 26, 1954	71.24
Carloadings revenue freight	
Forty-one weeks, 1955	29,742,924
Forty-one weeks, 1954	26,699,366
Average daily freight car surplus	
Wk. ended Oct. 22, 1955	2,180
Wk. ended Oct. 23, 1954	32,895
Average daily freight car shortage	
Wk. ended Oct. 22, 1955	21,542
Wk. ended Oct. 23, 1954	3,140
Freight cars on order	
October 1, 1955	52,913
October 1, 1954	11,993
Freight cars delivered	
Nine months, 1955	25,938
Nine months, 1954	30,266
Average number of railroad employees	
Mid-September 1955	1,092,147
Mid-September 1954	1,063,966

●

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATON (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX, THE ENGINEERING INDEX SERVICE AND THE PUBLIC AFFAIRS INFORMATION SERVICE. RAILWAY AGE, ESTABLISHED IN 1856, INCORPORATES THE RAILWAY REVIEW, THE RAILWAY GAZETTE, AND THE RAILWAY AGE GAZETTE. NAME REGISTERED IN U. S. PATENT OFFICE AND TRADE MARK OFFICE IN CANADA.

●

Departments

Abandonments	13
Benchmarks & Yardsticks	28
Competitive Transport	13
Equipment & Supplies	16
Figures of the Week	8
Financial	42
Forum	23
Freight Operating Statistics	50
Law & Regulation	9
New Facilities	46
Operations	10
Organizations	13
People in the News	12
Public Relations	12
Railway Officers	46
Traffic	8
What's New in Products	21

Week at a Glance CONTINUED

stream, but progress in political and economic areas is slower. 34

Built-in tarpaulin covers a Bessemer & Lake Erie gondola, making it easy to provide weather protection for steel or other products that otherwise might require special packing. 37

Freight operating statistics for August for the larger roads continue to show, in most cases, substantial improvement over the same month last year in such significant figures as the percentage of bad order cars and car-miles per car-day. 50

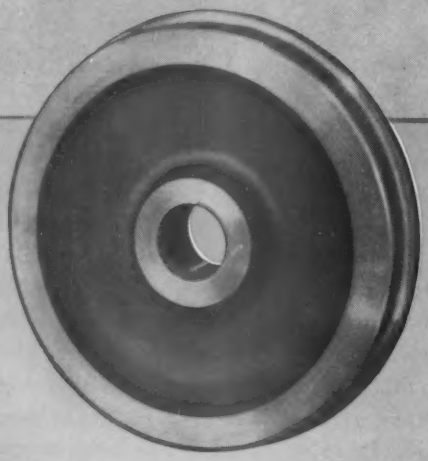
BRIEFS

Vacation travel of upper-income families last year added to railroad revenues about $155 million spent for train and Pullman fares, according to the annual travel survey of the Curtis Publishing Company. Projecting totals from a controlled sample, the survey indicated that, of 14 million families in the upper brackets, 65% made an average of two vacation trips per year, of which 12.8% were by train.

"**I am confident now** that railroads, selectively, are at the stage where capital for improvements that should not be provided through bond issues, and which cannot reasonably be met through proceeds of equipment trust or conditional sales agreements, may be raised by stock subscriptions by stockholders. I believe that the time is close by when railroad management will be able to raise funds, without a maturity date or a sinking fund requirement, for such needs, possibly, as improved yards, facilities 'shrinking,' electronics, TV, or CTC. I firmly feel that railroad management, where it has a record of good accomplishment (and the showing in so many cases has been so excellent), possesses a shining opportunity of getting the common stockholder to purchase more stock 'at a rights concession basis'."— *W. Wendell Reuss, manager, Railroad Securities Department, W. E. Hutton & Co., speaking at the recent annual meeting in Miami Beach of the AAR Treasury Division.*

a friend in need by Hungerford

We will be glad to send you enlarged copies of this Hungerford cartoon (without advertising copy) for posting on your office and shop bulletin boards, or a cut for your company magazine, at cost.



Edgewater

Rolled Steel Wheels

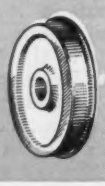
Edgewater Steel Company
PITTSBURGH, PA.

makers of

Draft Gears

Rolled Steel Tires

Rolled Steel Wheels



Safety Is Management's Job

Railroad officers urged to consider employee's safety record and attitude in promotions, and to eliminate "drastic discipline" in accident cases

American railroads have good reason to be proud of their accomplishments in industrial safety and accident reduction in the past 40 years, C. R. Harding, president of the Pullman Company, told the railroad section of the 43rd National Safety Congress at its recent Chicago meeting.

"Good leadership and followership" are necessary in a safety program, Mr. Harding said. "Safety is not a by-product of business, it is the responsibility of management to remove hazards and conditions which invite accidents.

"An employee's safety record and his attitude toward the whole concept of safety should be taken into account with other qualifications when he is being considered for promotion," he emphasized.

Fear Can Stop Carelessness—Senator Everett B. Dirksen, Republican of Illinois, told the railroad section "the attitude that accidents just happen must be changed—behind every accident there is a cause—carelessness of an individual brain."

The senator added that two universal passions can be appealed to in accident prevention: Fear, and a desire for self preservation.

"Employees who have no fear of drastic discipline will make an accident report showing the facts even though they themselves are largely responsible," J. H. Kline, president and general manager of the Lake Superior & Ishpeming, told the meeting.

"It has been our experience," Mr. Kline said, "that too often drastic discipline creates a feeling of animosity and ill will that far overshadows any 'correction' or 'education' supposed to be gained from the discipline administered. If an accident does occur the employee knows he will be treated fairly; that every possible thing will be done to rehabilitate him for his job, and that during his convalescence he and his family will not suffer financial loss."

When time is lost because of an accident it is LS&I policy, Mr. Kline said, to continue the employee on the regular full-time payroll and to do everything possible to return him to his job in normal condition. The policy has paid off, he added. "We have not had any of the well-known attorneys who specialize in this field on our property for many years."

Amazing Railroad Safety—Railroads have an amazing passenger safety record, E. R. Jelsma, director of the bureau of Transport Economics and Statistics, ICC, told the safety congress.

The passenger fatality rate was 0.78 per billion passenger-miles in 1954, he said. "To obtain this figure about 97% of all railroads had to have a perfect record. Not only do railroads deliver their passengers and freight, but they are doing so with a greater degree of safety than any one anywhere."

It is unfortunate, however, he continued, "that some carriers are more interested in making their statistics look good than they are in making them accurate." He pointed out that "accuracy and completeness of statistics on accidents and the extent to which they can be used by industry hinges largely on the accuracy and completeness of reporting to the ICC."

In view of the dynamic changes that have taken place in the industry since the last revision of reporting rules in 1922, said Mr. Jelsma, the Bureau of Transport Economics and Statistics, in cooperation with the AAR, has undertaken a revision of the accident-reporting procedure. A study of classification codes covering train and non-train accidents will be released soon.

The highway-railroad crossing committee chairman, E. G. Kiesele of the Milwaukee, reported on use of reflectorized material in highway crossing signs and whistle posts.

New officers of the railroad section of the National Safety Council are: C. T. DeWitt, Northern Pacific, general chairman; L. B. Harper, Illinois Central, vice-chairman; and J. H. Williams, Texas & Pacific, secretary.

GOLD "OSCAR OF INDUSTRY" trophy for the best annual report in all industry has been won this year by the Pennsylvania. James M. Symes (center), PRR president, accepted the award at the recent 11th annual awards banquet in New York City. At left is Donald McMaster, vice-president and general manager of the Eastman Kodak Company, which won the gold "Oscar" a year ago. Weston Smith (right), directs the annual report contest for the Guenther Publishing Corporation, publisher of Financial World magazine. A bronze "Oscar" for the best annual report issued by a railroad equipment manufacturer was awarded to American Brake Shoe Co.

ICC's Mitchell Concerned About Truck Accidents

The Interstate Commerce Commission will soon propose, for heavy trucks, additional brake regulations which will "substantially reduce the loss-of-control type of accidents."

This was announced by Commis-

sioner Mitchell in an October 21 statement which expressed the commissioner's concern about the number of truck accidents, several resulting in deaths, extensive property damage and injuries. Mr. Mitchell is chairman of the commission's Motor Carrier Division (Division 1) and the commissioner in charge of the Bureau of Motor Carriers.

The new regulations which the commission will propose, he said, have been framed after studies by technical committees of the Automobile Manufacturers Association and the Truck-Trailer Manufacturers Association. Views of manufacturers of brake equipment and motor carrier associations were also obtained.

Meanwhile, the commissioner called upon the trucking industry to "take positive steps to effect complete compliance" with present ICC regulations. "Several of the accidents," he said, "are attributable to equipment failures and inadequate instruction to drivers. Failure of brakes and improper driving practices have caused loss of control of heavily laden vehicles on hills leading into and through towns. Inadequate inspection and poor maintenance have been found to exist," as well as violations of Motor Carrier Safety Regulations.

"Hire Young Men, Pay Them Well"

Heineman of M&StL outlines plans and projects under way on his road; considering a bonus plan

Our program for "rehabilitating" the Minneapolis & St. Louis includes seeking out young men who will be leaders in the railroad industry ten years hence, and giving them the responsibility and compensation today, Ben W. Heineman, chairman of the executive committee of the M&StL said in Chicago October 21.

Mr. Heineman, speaking before a railway supply group, outlined some things the M&StL management, which took over in May 1954, hopes to accomplish. They include:

Hiring young men, giving them bigger jobs and taking steps to make sure they stay with the road; an incentive pay plan, including bonus payments for outstanding job performance; modernization of the accounting department, which will be completed December 31, to save over $325,000 a year; new maintenance procedures, including mechanization, to bring about top grade work at substantial savings; and, careful consideration to pipelines along the railroad right of way.

Pay for Production—Commenting on the idea of bonus pay, Mr. Heineman said he believes officers should have the opportunity, when they produce for the railroad, "to share in the benefits financially." The present owner-board of the M&StL can do more along these lines, Mr. Heineman said, because, as he put it, "it's our money."

"If a man is able to better operate our trains, to cut the operating ratio, he should share in the saving," Mr. Heineman added. A 1% change in the ratio on the M&StL, he said, would amount to more than $200,000 a year before taxes.

The speaker went on to say he would like to see several top officers included in such a plan. For example, he said, it would seem possible to work out a "formula" whereby a traffic vice-president would share in the benefits of increased business.

No Rate Hikes—Mr. Heineman said he would be "greatly concerned" if railroads were to seek new freight-rate increases. He thinks such increases would erode business, and added "my notion of business is you don't price yourself out of the market." He would like to see a rate decrease coming out of increased efficiency.

"All railroads have further efficiencies and improvements they can make; on the M&StL we're a long way from home," Mr. Heineman continued. He said that if the road has any "attitude" at all, it is that railroads should borrow heavily in ideas from other businesses. "We should bring into business the thinking and modernization that other industries have found successful. We should not approach new ideas with a 'refusal to look' approach."

JOSEPH A. FISHER (right), president of the Reading, receiving in Philadelphia October 11 the annual commerce and industry award of the Delaware Valley Council. At left is Oliver G. Willits, vice-chairman of the Campbell Soup Company and 1954 recipient of the award. James V. Baney, council president, is in center. The award was for Mr. Fisher's "enlightened efforts to improve national and regional transportation."

Figures of the Week

Freight Car Loadings

Loadings of revenue freight in the week ended October 22 totaled 834,499 cars, the Association of American Railroads announced on October 27. This was an increase of 7,254 cars, or 0.9%, compared with the previous week; an increase of 88,554 cars, or 11.9%, compared with the corresponding week last year; and an increase of 30,086 cars, or 3.7%, compared with the equivalent 1953 week.

Loadings of revenue freight for the week ended October 15 totaled 827,245 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, October 15

District	1955	1954	1953
Eastern	133,634	109,729	134,848
Allegheny	153,149	123,638	158,587
Pocahontas	63,881	53,172	58,819
Southern	133,828	123,350	131,620
Northwestern	143,061	114,009	134,960
Central Western	139,395	138,626	138,708
Southwestern	60,297	58,812	65,040
Total Western Districts	342,753	311,447	338,708
Total All Roads	827,245	721,336	822,582
Commodities:			
Grain and grain products	58,254	49,517	55,986
Livestock	14,650	16,887	16,016
Coal	140,252	127,032	136,417
Coke	12,908	9,019	12,489
Forest Products	44,926	45,215	44,339
Ore	81,611	48,715	78,129
Merchandise l.c.l.	65,176	64,194	72,130
Miscellaneous	409,468	360,757	407,076
October 15	827,245	721,336	822,582
October 8	807,035	702,910	804,066
October 1	820,312	721,643	812,534
September 24	819,025	710,215	819,709
September 17	822,214	711,228	823,883
Cumulative total, 41 weeks	29,742,924	26,699,366	30,942,655

In Canada.—Carloadings for the seven-day period ended October 7 totaled 92,730 cars, compared with 121,584 cars for the previous nine-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
October 7, 1955	92,730	34,174
October 7, 1954	77,254	27,605
Cumulative Totals:		
October 7, 1955	3,105,535	1,248,367
October 7, 1954	2,799,419	1,092,234

Traffic

Knudson Sees Threat in Agreed Charges for RRs

Introduction of agreed charges in this country would "cripple" the national defense, former Interstate Commerce Commissioner James K. Knudson told the American Trucking Associations October 21.

Speaking at the ATA's 22nd annual convention in Washington, Mr. Knudson said the Canadian government had

bowed to "railroad pressure" in permitting the charges. He said, "you have no right to assume that it could not happen here," adding that the system might be introduced in this country by an amendment to proposed Cabinet Report legislation. The "infection" might enter this country through United States roads that operate into Canada, he continued.

Mr. Knudson defined agreed charges as rates "agreed upon by a carrier for transport of all or any part of the goods of any shipper or group of shippers."

C. J. Williams, president of Hillside Transit Company of Milwaukee, was elected ATA president to succeed Neil J. Curry of Los Angeles, who became chairman of the board.

NEW ECUADOR RAILROAD between Quito and the northern seaport of San Lorenzo, 232 miles, is nearing completion. The last 94-mile stretch—being built by two French contracting firms—plus new rolling stock, maintenance facilities and port improvements, will cost about $20,000,000. A surveying party is shown in the photograph.

Law & Regulation

Ogden Gateway Case Will Get Supreme Court Review

The United States Supreme Court has agreed to review lower-court rulings in the Ogden Gateway case.

The lower-court rulings were made on appeals from the Interstate Commerce Commission's decision which would require the Union Pacific to participate, with the Denver & Rio Grande Western, in joint rates over through routes, via Ogden, Utah, on a few commodities moving to and from the Northwest.

The case came up to the Supreme Court on UP and D&RGW appeals from the lower-court rulings which were made in federal district courts at Omaha, Nebr., and Denver, Colo. The Denver court held that the Ogden gateway was open and remanded the case to the commission for the establishment of reasonable joint rates. The Omaha court held that the commission went too far, because the evidence justified prescription of through routes and joint rates only as to shipments actually stopped at D&RGW points for in-transit services.

Also involved are appeals by states and their public utility commissions in UP and D&RGW territories. These states take differing positions, some supporting one road and some the other. (*Railway Age*, August 29, page 11.)

Altogether there are six cases, docketed in the Supreme Court as 117 to 119, inclusive, and 332 to 334, inclusive. The court consolidated them and allowed a total of three hours for argument at a date to be set later.

All Common Carriers Urged To Support Cabinet Report

Lashing at the trucking industry for ignoring parts of the Weeks Report which would benefit all common carriers, Patrick B. McGinnis, president of the New Haven, called on regulated truckers and airlines alike to join railroads in "putting this thing across."

Addressing the New York Society of Security Analysts in New York City October 21, he said the Weeks Report gives common carriers a chance to meet the unregulated competition of "skimmers"—the contract and private carriers. For the first time, he said, they are "afraid of us" because the report would permit rates based on cost.

Mr. McGinnis' remarks followed a talk by John E. Redding, former Assistant Postmaster General and now consultant to the Independent Advisory Committee to the Trucking Industry. Mr. Redding said adoption of the Weeks Report would throw transportation back to the pre-1920 era and open the way for unbridled, "cut-throat" competition in which the major railroads would swallow all competition, both trucker and small railroad.

Mr. Redding declared that, since it was the work of a staff comprised "almost wholly" of personnel from the railroad industry or sympathetic to it, the Cabinet Report would "toss aside" established transport policy and "reduce the Interstate Commerce Commission to impotency." He assailed making "dynamic competition" the basis for revised transport policy, saying this would set the stage for open rate war on railroad terms.

Other issues are involved in the Weeks Report, Mr. McGinnis countered, asking why Mr. Redding and the trucking industry fail to discuss proposals referring to contract and private carriers, the Fourth section and long-and-short-haul clauses, bulk rates, and commodity exemptions.

He labeled private carriers as "one of the greatest ruiners" of both trucker and railroad and asserted that common carrier truckers must approve the Cabinet Report as it applies to them.

Mr. Redding later said Mr. McGinnis might be right on several points. He also conceded there may be some "injustices" in ICC regulation of railroads. He predicted that no legislation would be enacted on the report next session, however, because the trucking industry will not accept the whole report.

Mr. McGinnis agreed that the whole report could not be put over, but suggested that all common carriers work together on the preamble of the report as a start. After which, he said, some legislation might then be produced.

As to competition of the "cut-throat" variety, Mr. McGinnis said railroads had too long based their rates on the value of products moved, but now "we want a rate in relation to our costs." He added that "we'll prove they're compensatory within the industry and in the public interest," and suggested that the "compensatory" and "public interest" provisions be included in whatever transport policy is established. He said existing regulation that requires railroads to consider the affect of their rates on competitors "is like telling Macy's to tell Gimbels."

Food-Terminal Promotions Are Legal, Southern Says

The Southern has told the Interstate Commerce Commission that the railroad's efforts to establish produce

terminals in cities along its lines are legal and in the public interest.

That position was taken in the road's formal reply to the petition wherein four competing roads are asking the commission to investigate alleged illegal practices in connection with financing and construction of the terminals involved. The complaining roads, recently dubbed "poor losers" by the Southern's president, Harry A. DeButts, are the Atlantic Coast Line; Louisville & Nashville; Nashville, Chattanooga & St. Louis; and Atlanta & West Point. (*Railway Age*, October 3, page 10, and October 10, page 8).

Southern's reply asserted it is a matter of common knowledge and official record that many large cities lack adequate facilities for wholesale produce and food dealers. It insisted that to remedy this situation is consistent with the public interest. It asked the Commission to dismiss the petition and ignore the request for an investigation.

The reply also said the Southern had violated no law, but had done only what "other progressive railroads in other parts of the country have done to serve shippers and compete with other forms of transportation in keeping traffic on their lines." Moreover, it was also contended that one complainant, the L&N, "has itself in at least one instance offered a produce terminal inducements to locate on its lines similar to those the Southern has offered."

CHESAPEAKE & OHIO "HAMS" on the job—To aid civil defense, 25 amateur radio operators, who are employees of that railroad, have organized the C&O Railway Employees Amateur Radio Club. Partly with the assistance of the C&O, the club has built station K4CDA in the railroad station at Ellerson, just outside Richmond, Va. Test operations already have been conducted—club members stood by during hurricanes "Connie" and "Diane" — and regular semi-weekly drills are ready to start. C. Purcell Epps (above), C&O supervisor of terminals, is club president.

Operations

NARUC Committee Favors Passenger Subsidy Study

The committee of the National Association of Railroad and Utilities Commissioners studying the passenger deficit has announced it favors a study of tax forgiveness to offset railroad passenger traffic losses.

In its fourth report on the subject, the committee disclosed that such a study had been proposed by several members but was "promptly frowned upon" by cooperating railroad representatives. Nevertheless, the committee said, "in the light of the acknowledged fact that railroad passenger transportation is a necessary and integral part of national defense, there appears to be justification for the proposal. Certainly it is more practical than stockpiling depreciated and wornout equipment."

The committee, headed by Walter R. McDonald of Georgia, was formed in 1949 as "The Special Committee on Cooperation with the ICC in the Study of the Railroad Passenger Deficit Problem." Its latest report was submitted at the NARUC annual meeting in Asheville, N.C., last week.

The committee urged the Interstate Commerce Commission to adopt a "more realistic approach" to separation of freight and passenger train expenses. The committee said the ICC formula is based on 20-year-old rules and may not "meet present day conditions and requirements."

It also noted that reduction of the passenger deficit from $704.5 million in 1953 to $669.5 million in 1954 was a step in the right direction, but said the deficit still is a problem of "huge proportions." It pointed out that of a passenger-service expense reduction of $141 million, deferred maintenance accounted for $100 million.

The committee praised railroads for developments in new passenger equipment; assailed the Post Office Department's three-cent-mail-by-air program; called for return of military passenger traffic to railroads as the best way to maintain equipment adequate for defense; criticized the majority of railroads for a policy of "retreat and surrender" in passenger operations instead of following the committee's 1951 recommendation that they cultivate new business; and endorsed the Hoover Commission's proposals to allocate parcel post costs properly.

Economy Fuel Test Run on the SP

Economy fuels for diesel locomotives were discussed at the Pacific Railway Club meeting in Roseville, Cal., October 20, and a demonstration run was held the following day on the Southern Pacific from Roseville to Sparks, Nev., and return.

A test unit, No. 8257, equipped with the necessary dual fuel supply system, was used with four other road freight units to haul the SP dynamometer car, 79 loaded cars and 22 empties, or 4,988 tons, on the eastbound run. At Colfax, Cal., three additional units were cut into the train to take it over the 49.7-mile stretch of heavy grade, up to 2.2%, between Colfax and Norden.

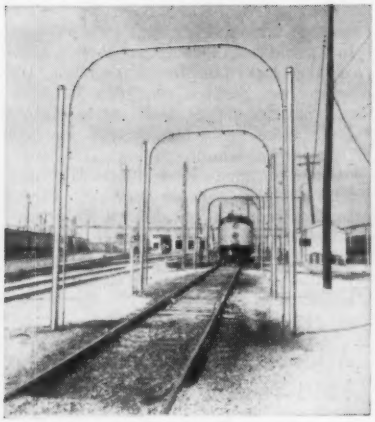
Included in the test observation party, piloted by P. V. Garin, engineer, research and mechanical standards, SP, were representatives of several railroads, including two from the eastern seaboard; three oil companies, and one locomotive builder.

Streamliner Switch Goes to Court

Union requests for a restraining order against the scheduled October 30 switchover of streamliners to the Milwaukee from the Chicago & North Western, were denied in Federal District Court at Chicago late on October 27.

The Railway Labor Executives Association and the Order of Railway Conductors & Brakemen had asked the court to delay the changeover pending Interstate Commerce Commission action on a petition filed last week.

Federal Judge J. J. Hoffman heard the case at Chicago on October 26-27. Union spokesmen said the October 30



Pressure washing plant layout.

High-pressure spray stand.

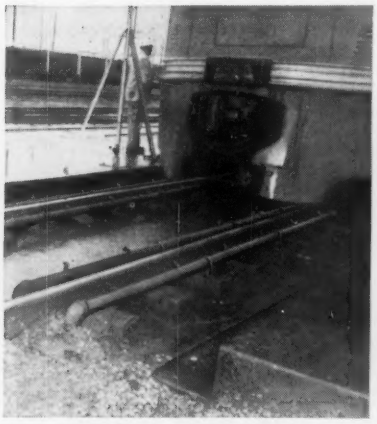
Cleans any contour.

Dearborn...the only system that cleans them all!

The Dearborn High-Pressure Cleaning System washes locomotives (road, switch, steam) and cars—regardless of contour. It automatically cleans tops, ends, sides and trucks; even wheels and bottoms, if desired. Dearborn Pressure Cleaning, when combined with mechanical brush washing, provides the ultimate in terminal passenger, locomotive and car cleaning.

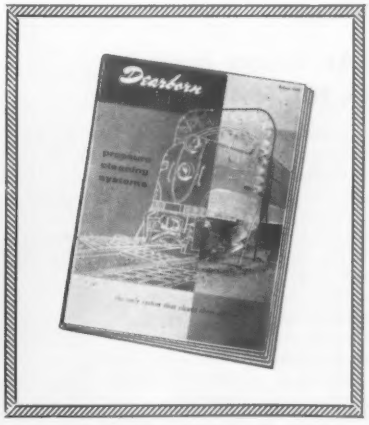
ADVANTAGES: Saves time • Saves labor • Lowers cleaning cost per unit • Speeds up "terminal handling" operations.

Want proof? The coupon will bring complete details.



Cleans wheels and bottoms, also.

Pressure cleaning plus brush washing... an ideal combination.



Bulletin 6100 explains the Dearborn High-Pressure Cleaning System in detail.

Dearborn®

PRESSURE CLEANING SYSTEMS

Dearborn Chemical Company
Merchandise Mart Plaza, Dept. RA, Chicago 54, Ill.

Gentlemen: Please send me Bulletin 6100 on the Dearborn Pressure Cleaning System.

Name.....Title.....

Railroad.....

Address.....

City.....Zone....State.....

switch would throw 700 to 1,200 men out of work.

Counsel for the railroads contended that discontinuance of joint passenger arrangements does not require ICC approval. A spokesman for the Milwaukee said delay of the proposed changeover would have cost his road an estimated $154,000 per month.

Before receiving the RLEA complaints, which were based on various sections of the Interstate Commerce Act, the commission's chairman, Commissioner Cross, had advised Senator Hickenlooper, Republican of Iowa, that the commission had no jurisdiction to get into the matter. Mr. Cross said in part:

"It is our understanding that the agreement between the Chicago & North Western and the Union Pacific was merely in the nature of an agreement for through train service, each of the carriers being responsible for the operation while on its own line. I know of no provision of the Interstate Commerce Act which would require the approval of this commission either for the abandonment or institution of that type of service. . . . In view of the fact that there appears to be no violation of the Interstate Commerce Act and the subject matters of the protests do not appear to be within the scope of this commission's jurisdiction, I am not advised of any legal basis under which it could conduct an investigation with respect thereto."

Public Relations

RRs Report Progress In NJ Tax Campaign

Eleven railroads serving New Jersey have reported promising results from a campaign launched in July against the state's taxation policies. The roads, combined in the Associated Railroads of New Jersey, claim they must pay $1.64 in taxes within New Jersey for every $1 made in the state.

The program has included an intensive advertising campaign, speeches by executives of the roads, pamphlets, direct mail promotions, and activities directed at community leaders.

The roads maintain that they do not wish to avoid legitimate taxation but protest that New Jersey's taxes are the highest in the country and five times the national average.

Indications that the campaign is attracting notice come from editorial and press coverage of the ARNJ position in a way sympathetic to the railroads' objectives, the Railroad Information Bureau of the associated roads reported. The member roads include the Jersey Central; Lackawanna; Erie; Lehigh & Hudson River; Lehigh & New England; Lehigh Valley; New York Central; Susquehanna; Pennsylvania; Pennsylvania-Reading Seashore Lines; and the Reading.

People in the News

New ARCI Vice-President

George T. Barker, a New York attorney, has been elected a vice-president of the American Railway Car Institute. Mr. Barker is a partner of the law firm of Hardy, Peal & Farrell.

C. K. Steins Receives 1955 Henderson Medal

C. K. Steins, mechanical engineer of the Pennsylvania, has been awarded the 1955 George R. Henderson Medal of the Franklin Institute. The medal is awarded each year for meritorious inventions or discoveries in railroad engineering. Presentation was at the institute's yearly medal day ceremonies in Philadelphia, October 19.

Hardesty Succeeds Hamm As ICC Managing Director

Marion Norton Hardesty, who had been consultant to the International Cooperation Administration, is the new managing director of the Interstate Commerce Commission. He took over October 27 as successor to E. F. Hamm, Jr., first to hold the position, who resigned September 30.

Mr. Hardesty, born October 17, 1907, in Springfield, Mo., was graduated from Missouri State College. During World War II he was in the Army, rising to the rank of colonel, and serving with the U. S. Military Mission to Bolivia.

After his release from active duty in March 1946, he became managing director of the Texas Pan-American Association. In February 1947 he returned to active duty as secretary of the Joint Security Control of the Joint Chiefs of Staff. He also served in the general headquarters of the Far East Command.

Marion N. Hardesty

While in Tokyo, Mr. Hardesty left active service to join the staff of the Natural Resources Section of the Supreme Command for the Allied Powers. In June 1952, he became deputy chief of the Pakistan Branch, Asian Development Service. A year later he was named special assistant to Harold E. Stassen, director of the Foreign Operations Administration.

In February 1954, Mr. Hardesty became regional director of FOA's Latin American operations and president of the Institute of Inter-American Affairs. He became consultant to ICA when FOA was incorporated into the Department of State.

Alldredge Leaves ICC After 16½ Years as Commissioner

Interstate Commerce Commissioner J. Haden Alldredge has resigned after 16½ years as a member of the commission.

It was announced at the commission on October 25 that he would relinquish his duties October 31 "in accordance with his letter addressed to the President on September 1." Up to that time, the White House had made no announcement of the resignation which had been rumored in Washington for several weeks.

New Roles—Mr. Alldredge will become a consultant for the Development and Resources Corporation, recently organized by David E. Lilienthal, former chairman of the Atomic Energy Commission, and Gordon Clapp, former chairman of the Tennessee Valley Authority, to provide, as the announcement put it, "organizational, technical, and financial guidance in development of natural resources outside the United States." Mr. Lilienthal is also a former chairman of TVA, and Mr. Alldredge was on the authority's staff from 1934 until he became a member of the ICC in 1939.

The announcement of the resignation also said Mr. Alldredge will represent "one of the important barge lines operating on the inland waterways system, as well as large motor carriers." He will become associated with the Montgomery, Ala., law firm of Knabe & Nachman, with headquarters at the firm's newly opened Washington office in that city's Investment building.

The ICC term which Mr. Alldredge was serving has more than three years to run—until December 31, 1958. Before that time, however, he would have become subject to the government's compulsory retirement rule, after having reached the age of 70.

Mr. Alldredge was born July 28, 1887, at Brooksville, Ala., and educated at Central Alabama Agricultural College and the Jones Law School of Montgomery, where he was awarded an LL.B. degree. His career got under way with two years of teaching and nine years in industrial traffic work. Thereafter, in 1919, Mr. Alldredge became traffic manager of the Dothan,

Ala., Chamber of Commerce; and from 1923 until 1934, he was on the staff of the Alabama Public Service Commission as chief of its Transportation Bureau.

His 1934-1939 service with TVA included four years as transportation economist and one year as director of the authority's Commerce Department. Mr. Alldredge became a member of the ICC in 1939, having been appointed by President Roosevelt as successor to former Commissioner Frank McManamy. Reappointments came from President Roosevelt in 1945 and from President Truman in 1952. Under the commission's plan of rotating its chairmanship, Mr. Alldredge served two terms in that office.

Competitive Transport

Senate Unit Investigating ICC's Trucker Policies

The Senate's Small Business Committee has undertaken an investigation of the administration of the Motor Carrier Act by the Interstate Commerce Commission.

The committee's chairman, Senator Sparkman, Democrat of Alabama, announced this in an October 26 statement which said many small truckers have complained about commission regulations because they "hamper free enterprise and competitive opportunity."

First phase of the investigation involved the sending of a questionnaire to ICC Chairman Cross. The senator expects the commission's reply "within the next month." Then he will come to the probe's second phase—public hearings, beginning November 30 in Washington, with testimony from the commission, cabinet officers, professors of public administration and transportation, and representatives of small truck lines.

Organizations

The latest developments in refrigeration equipment for cold storage warehousing and transportation will be on display at the ninth **Air Conditioning and Refrigeration Industry Exposition** at Atlantic City, N.J., November 28-December 1.

At a recent meeting of the **Railroad Community Committee** of Columbus, Ohio, all incumbent officers were re-elected, as follows: Chairman, Lloyd E. Siberell, agent, Norfolk & Western; vice-chairman, H. M. Wilson, district passenger agent, Chesapeake & Ohio; secretary, T. E. Uhler, freight agent, Pennsylvania.

The following officers of the **United Association of Railroad Veterans** were elected at a recent annual meeting in Asbury Park, N.J.: President, E. R. Stanley, Baltimore & Ohio, Pittsburgh; first vice-president, E. H. Winslow, Maine Central, Portland, Me.; second vice-president, J. B. Downing, New Haven, Dedham, Mass.; third vice-president, H. T. Freed, Norfolk & Western, Roanoke, Va.; fourth vice-president, J. J. Straut, Erie, Cleveland; secretary, H. J. Smith, Lackawanna, Orange, N.J.; treasurer, H. P. Wells, Boston & Maine, Boston.

At the annual meeting of the **Treasury Division, Association of American Railroads** in Miami Beach, Fla., October 3-6, the following officers were elected: Chairman, F. O. Linstead, treasurer of the Chicago & North Western; vice-chairman, W. J. Wall, treasurer of the Gulf, Mobile & Ohio. R. E. Keefer, secretary of the AAR's Finance, Accounting, Taxation and Valuation Department, was reelected secretary. The 1956 meeting will be held at the Chateau Frontenac, Quebec, September 17-20.

The 42nd annual dinner of the **Traffic Club of Cleveland** will be held at the Hotel Statler, Cleveland, February 2, 1956.

The **Wyoming Valley Traffic Club** will hold a dinner meeting in the Hotel Jermyn, Scranton, Pa., at 6:30 p.m., November 2. Speaker will be Leon C. Houghton, retired supervisor of general accounting, ACF Industries, Berwick, Pa.

The **Illinois State Bar Association** will sponsor a panel discussion on the Weeks Report at the Sherman Hotel, Chicago, November 4, at 2:30 p.m. Members of the panel will include Warren Brown, president of the Monon; John S. Burchmore, general counsel, National Industrial Traffic League; William Springer, member of the House Committee on Interstate and Foreign Commerce; James F. Pinkney, general counsel, American Trucking Associations.

Michael A. O'Brien, assistant freight traffic manager, Canadian National—Grand Trunk, at Detroit, has been elected president of the **Michigan Traffic Association.**

J. M. Symes, president of the Pennsylvania, has been elected a trustee of the **National Industrial Conference Board,** and William White, president, Delaware & Hudson, has been elected a board member for one year.

Stanfield Johnson, general solicitor of the Southern Pacific, will speak at a dinner meeting of the **Pacific Railway Club,** at the Elks' Temple, Los Angeles, November 3; his subject—"The Dawn of a New Railroad Era?"

The **Transportation Association of America** will hold its fourth transportation institute of the year at the Bellevue-Stratford Hotel, Philadelphia, November 9. A feature of the all-day session will be a discussion of the Cabinet Report. Among speakers at the institute will be J. A. Fisher, president of the Reading, and David I. Mackie, chairman, Eastern Railroad Presidents Conference. TAA President George P. Baker, and Harold F. Hammond, executive vice-president, will conduct the program.

Abandonments

Authorizations

LEHIGH VALLEY-READING.—To abandon operation over the Siegersville branch of their lessor, the Ironton. The branch is a 2.6-mile line

(Continued on page 16)

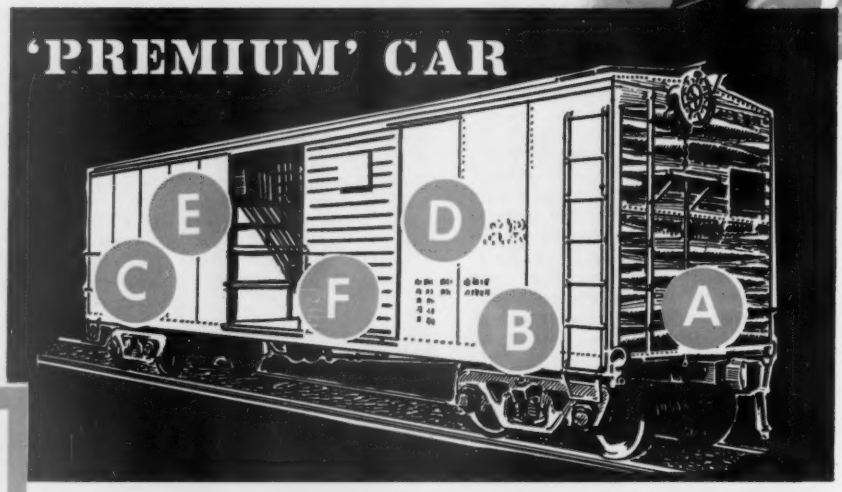
RR ENTHUSIASTS trip to Europe, arranged by General Tours, being discussed by, left to right: Ruth Thompson of GT; Hans Baertschi, publicity manager, Swiss National Travel Office; Arthur Knowles, "conductor" of the tour; and James P. Donahue, manager of GT's North American division. Participants in tour will inspect railroad facilities in Ireland, Great Britain, France, Switzerland and Italy.

*SHIPPERS SAY...

"Give us more 'Premium' cars, more cushion underframe cars... you'll get more freight!"

SEE Railway Age report of shippers' car preferences, in issue of October 24

Shippers' answers to the Railway Age car questionaire indicate a definite preference for cars equipped with A Cushion Underframes to protect lading against longitudinal shocks, B Improved trucks to reduce verticle shocks, D Wider doors to facilitate mechanical loading, and, E Load retainers to hold lading safely against shifting. All are features of the 'PREMIUM CAR' the coming freight car.



SPEED IS IMPORTANT WITH PERISHABLES

PLYPAKS reduce frequency of hot box delay

Plypak proven reduction of incidence of hot boxes means fewer delays in shipment of perishables. Railway Age, in the Sept. 12 issue, reports that 5000 Plypak equipped cars had 1/5 the percentage of hot boxes as compared with like cars in like service, which had no Plypaks.

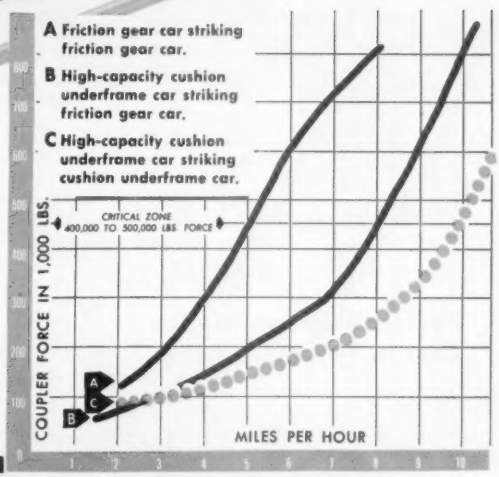
WAUGH

HIGH CAPACITY *Cushion*

CUSHIONING DEVICE

WAUGH EQUIPMENT COMPANY, 420 Lexington Ave.,

IMPACT FORCES DISSIPATED THROUGH THE SILLS... NOT THE CARS

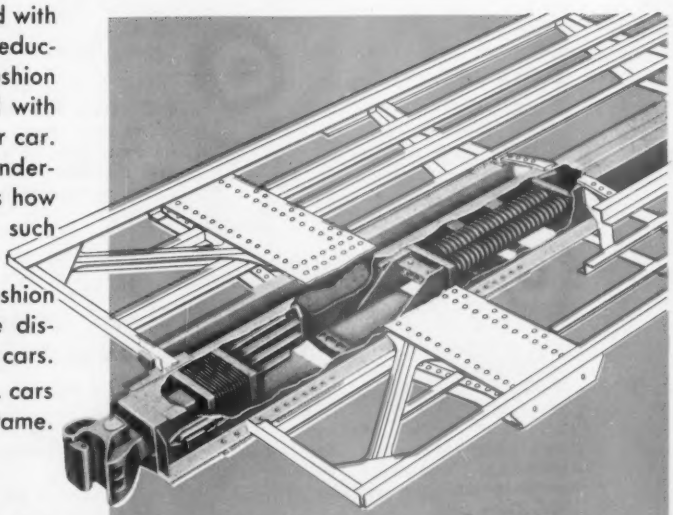

A Friction gear car striking friction gear car.
B High-capacity cushion underframe car striking friction gear car.
C High-capacity cushion underframe car striking cushion underframe car.
CRITICAL ZONE 400,000 TO 500,000 LBS. FORCE
COUPLER FORCE IN 1,000 LBS.
MILES PER HOUR

Why shippers ask for Cushion Underframe cars:

Current excessive lading damage, seemingly unavoidable with conventional cars, is reduced to a minimum in cars equipped with Cushion Underframes. In the graph (above right) note (B) reduction in transference of impact forces to the car structure of Cushion Underframe car struck by friction gear car, as compared with (A), the curve for a friction gear car striking a friction gear car. Note also (C) the far greater force reduction in the Cushion Underframe car struck by a Cushion Underframe car! This shows how the Waugh High Capacity Cushion Underframe provides such extraordinary protection for lading and cars.

In a series of cars equipped with Waugh High Capacity Cushion Underframes the protection is increased since forces are dissipated successively through the *sills . . . not* through the cars.

For more premium traffic, specify 'PREMIUM CARS' . . . cars equipped with the Waugh High Capacity Cushion Underframe.



Underframe

OF THE 'PREMIUM' CAR

Available capacity 90,000 ft. lbs.
500,000 lbs. sill reaction

New York 17, N. Y. Chicago • St. Louis • Canadian Waugh Equipment Company, Montreal

(Continued from page 13)

in Lehigh County, Pa., and the commission's report also authorized its abandonment by the Ironton.

ERIE.—To abandon an 8,584-ft section of its Hoytville branch near Blossburg, Pa.

PACIFIC ELECTRIC.—To abandon connecting sections of its Santa Ana line and Greenville branch, totaling 2.7 miles, in Orange County, Cal. Freight service to affected points will be continued under trackage-rights arrangements with the Sounthern Pacific.

OREGON SHORT LINE.—To abandon an 0.8-mile segment of track at Butte Hill, Silver Bow County, Mont. The Northern Pacific, operator of the track under lease, was authorized to abandon the operation.

PENNSYLVANIA.—To abandon its Canoe Creek branch extending 1.6 miles from a connection with its Crissman branch to the end of the track at Moores Mills, Pa. Also, to abandon operation of the Lancaster industrial track, which is to be abandoned by the lessor, Shamokin Valley & Pottsville, extending about four miles from a connection with the PRR's Shamokin branch to the Natalie Colliery in Northumberland County, Pa.

SACRAMENTO NORTHERN.—To abandon its 4¼-mile line between Montezuma, Cal., and West Pittsburg, which includes a car-ferry section crossing the Sacramento river. Traffic involved will be handled over an alternate route under trackage rights arrangements with the Western Pacific and Santa Fe.

Equipment & Supplies

FREIGHT CARS

Reefers May Run for Box Cars in Two More States

The ICC has revised Service Order No. 908 to add Utah and Idaho to the states within which railroads may substitute up to three SFRD, PFE or WP refrigerator cars (not suitable for transporting perishables) in lieu of each box car ordered.

The revised order became effective October 20 and is scheduled to expire December 31 (*Railway Age*, October 3, page 10).

Serviceable Fleet Gained 5,818 Cars in September

Class I railroads and their car-line affiliates added 5,818 cars to their serviceable fleet in September. This was reported by Chairman A. H. Gass of the Car Service Division, AAR, in his latest review of the "National Transportation Situation."

The gain was due to stepped-up repair programs, the bad-order backlog having been reduced by 7,959 cars. Meanwhile, however, there was a net loss in ownership of 2,141 cars.

The latter resulted from the retirement of 5,031 cars while only 2,890 new cars were being installed. The September installations were 1,065 cars under the August total, the drop reflecting "increasing difficulty in securing adequate supplies of steel," Mr. Gass said.

Orders were placed in September for only 3,333 new cars, "a sharp drop from the high level of the previous three months," as the CSD chairman noted. He attributed this to the temporary suspension of the "fast-write-off" program which provides tax relief to permit amortization of certified defense facilities over a five-year period. With the program reinstated, Mr. Gass anticipates "substantial new orders" during the remainder of this year.

The **Alaska** has ordered 50 70-ton flat cars from the Warren Car Company at a cost of $496,000. Delivery is scheduled for February 1956.

The **Chesapeake & Ohio** directors have authorized purchase of 1,000 hopper cars and 1,000 gondola cars at a cost of $15,300,000.

The **Great Northern** directors have approved construction in the road's shops next year of 1,000 box cars at an approximate cost of $8,000,000. The road also will acquire 25 19,000-gal tank cars from ACF Industries.

The **Lackawanna** has ordered 1,000 freight cars for delivery during the first half of 1956. Magor Car Corporation will build 500 50-ton 40½-ft box cars, and ACF Industries will build 400 50-ton 40½-ft box cars and 100 70-ton covered hopper cars. An inquiry by this road for 1,000 box cars and 200 covered hopper cars was reported in *Railway Age*, August 15, page 8.

The **Lehigh Valley** will order 300 new freight cars within the next 30 days.

The **Nickel Plate** has ordered 100 flat cars from its Ironville, Ohio, shops at an estimated unit cost of $7,000.

The **Reading** will purchase before the end of the year 1,400 additional freight cars costing $12,540,000, Joseph A. Fisher, president, said last week. Included will be 400 box cars, 500 70-ton gondola cars and 500 70-ton hopper cars.

The **Union Tank Car Company** will spend $10 million on new cars of various types, all to be built in its own shops. A company spokesman said the firm "has no crystallized program on the number of cars or types as yet."

LOCOMOTIVES

Class I Roads Install 786 Locomotives in 9 Months

Class I railroads installed 786 new locomotive units during the first nine months of 1955, of which 776 were diesel-electrics and 10 were electrics, the Association of American Railroads has announced. During the first nine months last year, Class I roads installed 953 new locomotive units, which included 939 diesel-electrics and 14 gas turbine-electrics.

New locomotive units installed in September by Class I roads totaled 85, all diesel-electrics, compared with 75 units installed in September 1954.

New locomotive units on order October 1 by Class I roads totaled 816, including 804 diesel-electrics and 12 electrics. On October 1, 1954, new locomotive units on order totaled 115, which included 104 diesel-electrics, 10 electrics and one gas turbine-electric.

Senator Would Authorize Atomic-Powered Locomotive

Legislation authorizing construction of an atomic-powered locomotive will be introduced by Senator Butler, Republican of Maryland, when the next session of Congress convenes in January.

The senator announced this last week in a statement which pointed out that the Atomic Energy Commission has already entered into an agreement with the Baldwin-Lima-Hamilton Corporation and the Denver & Rio Grande Western to conduct studies on the engineering, technical and economic aspects of an atomic locomotive and to make recommendations on the role industry might play in its development. These findings and recommendations will be completed next March, the senator said.

He went on to explain that his bill would authorize AEC, with the advice and assistance of the Interstate Commerce Commission, to develop and construct "an atomic energy propulsion facility for adaptation to a railroad locomotive of such characteristics and design as will make it usable in American railroad transportation." The Secretary of Commerce would be authorized to arrange for operation of the locomotive "in such manner as circumstances and the public interest warrant."

Senator Butler said he has been assured by Edward J. Kehoe, a member of the AAR committee on atomic energy and formerly associated with AEC, that an atomic locomotive is "entirely feasible." The senator also said: "My proposal envisions a sort of 'Freedom Train' drawn by an atom-powered engine containing atomic exhibits which would tour the United States and give our people a firsthand view of the progress made in the 'atoms for peace' program . . . almost certainly such an exhibit train . . . would do as much as any single act to

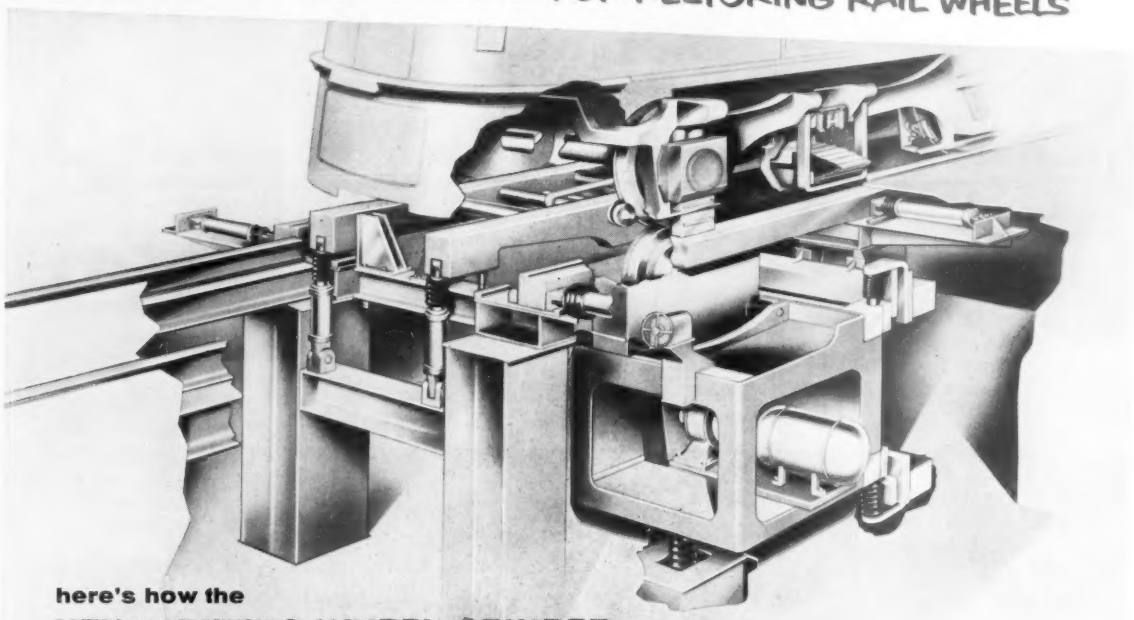
(Continued on page 42)

Briefly . . .

. . . The Norfolk & Western has been voted the "Joshua" award for the most distinguished use of match book advertising by a railroad in 1955. The N&W featured its "Scenic Route" for passenger trains, its "precision transportation" in freight service and its coal hauling operations on three different match book covers.

IT'S NEW!

A QUICK SERVICE DRIVE-IN FOR RESTORING RAIL WHEELS



here's how the

NEW WHITING WHEEL GRINDER

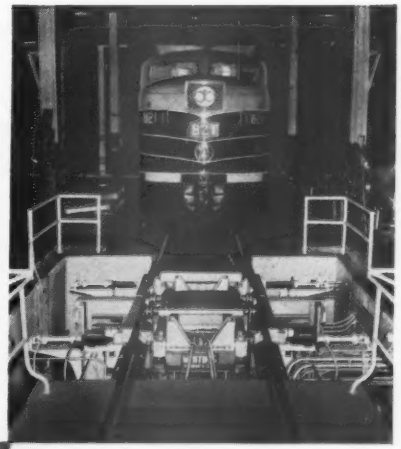
turns shop-time into road-time!

The most modern locomotives and cars aren't earning you a dime—unless they're out on the road, *working*.

The compact new Whiting Wheel Grinder reduces down-time from days to hours . . . accurately restores wheels to standard AAR contour *without removal!* Without touching a single nut or bolt, your much-needed equipment can be restored to peak operating efficiency in an amazingly short time.

Maintaining proper wheel contour is important to higher speed trains, heavy tonnage and keeping road beds and rails in good condition. The new Whiting Wheel Grinder makes maintenance of wheel contour an easy, routine job and helps reduce other maintenance problems as well.

This new development helps cut costs in *many* ways. It's located in a pit inside the shop, takes less room than other methods. It doesn't require skilled operators, only two men with little experience can grind upwards of eight pairs of wheels per day. It also eliminates the need for large stocks of trucks, wheels and other repair parts ordinarily damaged in removal and reassembly. Look into the Whiting Wheel Grinder now!



Proof of performance! . . . here's the new Whiting Wheel Grinder at work in the Baltimore and Ohio Railroad's Cumberland Diesel Shop. Other leading railroads have placed orders for this new Whiting development.

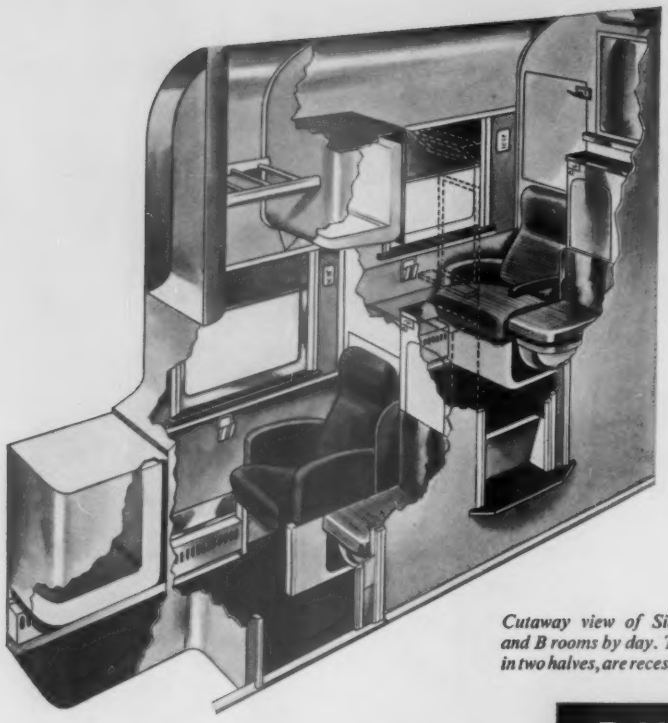
Complete details of the Whiting Wheel Grinder are yours for the asking in Bulletin MS-C-401.

Write for your copy today!

WHITING CORPORATION
15603 Lathrop Avenue • Harvey, Illinois

Manufacturers of Overhead Cranes
Jacks • Train Washers • Drop Tables

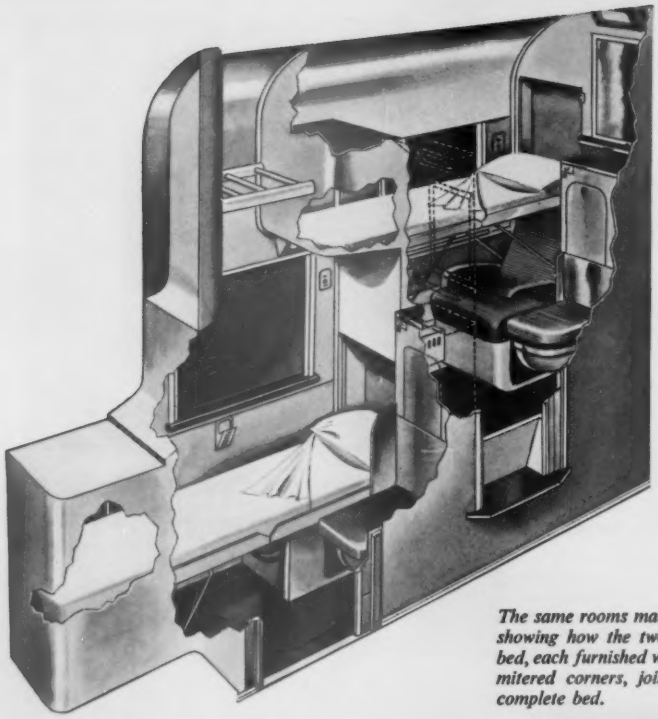
WHITING
WHEEL GRINDERS



Cutaway view of Siesta Coach A and B rooms by day. The beds, made in two halves, are recessed in the walls.

DAY

For mothers traveling with infants, the car is equipped with cribs—cloth over a frame—which may be suspended above the berth in the "B" room, or below it in the "A" room. The child is within easy reach, and the mother can keep her eye on the baby by watching the full-length mirror in the door.



The same rooms made up for night, showing how the two halves of the bed, each furnished with a sheet with mitered corners, join to make the complete bed.

NIGHT

Walls and ceiling are fibre-glass reinforced plastic, providing permanent, blemish-free finish, and eliminating moldings.

The rooms are duplexed. Each has a bed more than six feet long, comfortable individual seat, toilet, lavatory, individual heat control.

THE BURLINGTON MARKS UP ANOTHER "FIRST"

The Burlington has ordered twenty-eight Budd stainless steel cars which will provide two completely new Denver Zephyrs.

Their consist of Vista-Domes, diners, sleepers and feature cars includes a new kind of sleeping accommodation—a unique, 40-passenger, all-room, coach sleeper.

Budd and the Burlington are again pioneering together, just as in 1934, when the Burlington bought the first diesel-powered, stainless steel streamliner—the Pioneer Zephyr.

Siesta Coaches for the New Denver Zephyrs

We created this All-Room Coach Sleeper —as the Budd Siesta Coach—with the objective of recapturing traffic for the rails and also stimulating new travel. Its 24 single and 8 double rooms each will provide private accommodations with their arm rest chair for day—a bed for night—individual toilet and washing facilities—generous luggage space. Every seat is a window seat. A moderate occupancy charge above coach fare will be made.

As in 1934, and many times since, the Burlington has evaluated the needs of the times, embraced the new—and promoted progress. Now it has ordered Siesta-type All-Room Coach Sleepers for each of the new Denver Zephyrs.

To forecast the success of these new trains, and particularly their coach sleepers, would be merely to anticipate the extension of an unbroken series of successful, progressive developments.

The Budd Company, Philadelphia 32.

Budd

LOWER MAINTENANCE COSTS ALL THE WAY...

Amcreco
Lowry Process
Creosoted Products

Bridge Timbers
Adzed and Bored Cross Ties
Poles
Plank

●

Pressure treated for
Strength that lasts!

●

with AMCRECO Creosoted Products

Long service life with minimum maintenance—that's how Amcreco quality products reduce maintenance-of-way costs to the lowest possible level. Amcreco cross ties, bridge timbers, poles and plank last longer with greater strength because they are pressure treated in creosote by experienced Amcreco methods.

Start now and lower your maintenance-of-way costs by taking advantage of our nearly half a century of wood treating experience. Call your nearby Amcreco sales office for positive information on maintenance cost reduction.

AMERICAN CREOSOTING COMPANY

COLONIAL CREOSOTING COMPANY INCORPORATED

AMCREO

GEORGIA CREOSOTING COMPANY INCORPORATED

GENERAL SALES OFFICE—CHICAGO, ILLINOIS
10 FIELD SALES OFFICES TO SERVE YOU

What's New in Products

Improved Signal Protection of Lightweight Cars

To provide improved signal protection for lightweight cars subject to intermittent loss of shunt, a new "check-in check-out" circuit, applicable to railroads with intermittent inductive train control, utilizes elements of the train control system.

Each lightweight car, in addition to the regular train control receiver on the leading truck, is equipped with a specially modified receiver structure on the trailing truck. This auxiliary unit includes windings which are energized from the car's 64-volt supply to produce a magnetomotive force substantially greater than that present in the standard receiver.

No change is made in the wayside inductors. However, an auxiliary circuit including a sensitive impulse relay is connected to the inductor control coil. As the car enters a block, the train control and auxiliary receivers pass over the wayside inductor. Passage of the standard receiver does not affect the impulse relay, but passage of the auxiliary receiver, with its more intense magnetic flux, induces a voltage in the inductor winding which causes the impulse relay to pick up momentarily. Through suitable circuits, this operation of the impulse relay causes the battery feed to the track circuit to be pole-changed. With the track polarity thus reversed, the biased-neutral track relay used in the circuit will not now pick up even though the car should lose shunt one or more times as it proceeds over the track circuit.

As the car leaves the block, the two receivers pass over the inductor associated with the next signal. As before, the impulse relay responds to the auxiliary receiver, causing associated circuits to pole-change the rail connections of the biased-neutral track relay. This establishes the proper polarity relationships of track battery and track relay, so that the relay picks up when the car shunt is removed. Each wayside inductor checks a train "out" at one block and "in" to the next block. Where intermittent inductive train control is installed, no additional wayside inductors are required. The system may be readily extended to a continuous series of blocks, each with as many cut sections as may be required.

The protection provided for lightweight cars by the new circuit does not supersede, but is in addition to, that afforded by normal track shunting. With standard-weight trains, no auxiliary receiver is needed, as conventional shunting remains the basis of determining track occupancy. Thus the additional equipment need only be applied to units presenting a shunting problem. The "check-in check-out" circuit does not interfere with the train control system, which continues to operate as before. *General Railway Signal Company, Rochester, N.Y.* •

Steel Files with Sintered Nylon Bearings

Safe-T-Stak steel files equipped with sintered nylon bearings are said to set a new high in easy drawer operation. Because nylon can't rust and resists wear, extreme ease of operation is claimed as an outstanding lifetime advantage of the files.

Sintered with graphite filler, the nylon bearings never require lubrication. Tests indicate that the bearings have a friction coefficient two-thirds less than that of molded nylon. After 30,000 operating cycles, the sintered-nylon bearings on a letter file containing 60 lb of records showed no appreciable wear, and the file operated with the same ease at the end of the test as at the start, the manufacturer says. The files can be expanded either vertically or horizontally by adding standard one- and two-drawer units as needed. *Diebold, Inc., 818 Mulberry Rd., S.E., Canton 2, Ohio* •

Packaged Gear Lubricant Simplifies Servicing

The Jet Lube Poly-Bag, an expendable polyethylene plastic sack containing Sinclair Jet Lubricant, can be dropped into diesel locomotive traction motor gear cases. The transparent container holds a pound of grease in an easy-to-handle 8⅛ by 3½ in. size, which eliminates measuring or weighing before application.

The new package design, it is said, simplifies servicing. All the maintenance man has to do is drop the package into the gear case and the job is completed. When the gears mesh in motion, the bag disintegrates and becomes part of the grease mass. Tests by railroads are said to have shown labor cost savings. *Sinclair Refining Company, New York* •

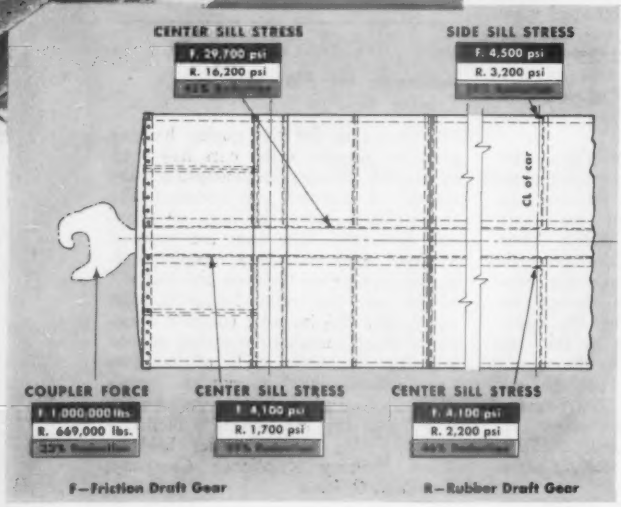
Balancer for Flat Car Trailer Bridge

A balancer for the trailer bridges used on piggyback flat cars has been developed. It uses torsion-spring bars which are mounted and operated like those that balance the ends of drop-end gonodolas. The bars are secured at their inner ends in a trunnion-and-spring anchor mounted on the end sill of the car. The trailer bridge is built out from a 3½-in. tube (outside diameter) which contains the spring anchor securing the outer ends of the two torsion bars. The bars run the length of this tube and have an overall length of 4-ft 5-in. It is said that they facilitate the operation of the trailer bridges. *Wine Railway Appliance Company, Toledo 9, Ohio.* •

WITH A HIGH IQ* HERE

National MF-400 Rubber-Cushioned Draft Gear fits both standard pocket and yoke.

THIS can prevent car damage HERE



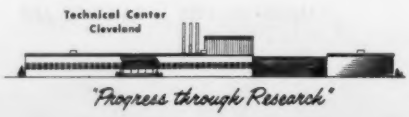
*IQ—or Impact Quantum—is the total amount of work which must be done in any impact. The purpose of cushioning is to permit this work to be done with a minimum of force transmitted to the car. This reduction in force is performed by the *extra-long-travel* and *high cushioning capacity* of the National Rubber-Cushioned Draft Gear.

Reduction of forces and stresses results in lower maintenance costs... fewer bad-order cars... greater car availability. Check the accompanying chart and see how National Rubber-Cushioned Draft Gears reduce stresses and keep them within safe limits for which body members and car structures were designed. Then check National's Report No. 155 "Impact" and see how National Rubber-Cushioned Draft Gears reduce damaging "lag factor," coupler force and center sill acceleration. AA-2266

NATIONAL MALLEABLE and STEEL CASTINGS COMPANY

Cleveland 6, Ohio

COUPLERS • YOKES • DRAFT GEARS • FREIGHT TRUCKS • SNUBBER PACKAGES • JOURNAL BOXES and LIDS



"Progress through Research"

Britain Out Ahead in Transport Statesmanship

People on this side of the Atlantic are occasionally tempted into feelings of self-satisfaction when they note that other countries—Britain for example—are not as far advanced as North America is in the application of modern technology to transportation. There may be several possible explanations for the difference—but a disparity in the distribution of brains is not one of them. Because, when it comes to understanding and acting courageously in accordance with the economic realities of the worldwide transportation problem—how to promote economic division of traffic among the several agencies of transportation—business and political leadership in Britain has got a long head start on its contemporaries on this side of the Atlantic.

This is not to say that there is any shortage of people in Canada and the United States who understand what needs to be done to encourage an economic division of traffic among the several transportation agencies. There are plenty of North Americans who know the score just as well as their counterparts in Britain do. The difference lies in the fact that, in Britain, business and political leadership has given heed to the counsel of the people who know the economics of the situation.

On this side of the Atlantic—south of the Canadian border anyhow—there are still some people in respectable positions of business and community leadership who continue to believe (or profess to believe) that rigid regulation of common-carrier transportation is consistent with the national interest. The people who, in this country, proclaim the economic facts-of-life regarding transportation are, as yet, voices crying out in a wilderness of misapprehension, misrepresentation and indifference. (We except Canada from this observation because, in at least some respects, Canada's positive action in the facing of transportation realities is far in advance of our own.)

But in Britain government has given full recognition to the fact that—if the country is going to continue to have self-supporting railway transportation on a nationwide basis, then the railways must be just as free to compete for traffic as other agencies of transportation are. Since there was no disposition on anybody's part to prohibit or seriously curb private transportation—freight movement by a shipper or receiver in his own vehicles—Britain changed the law to give the railways practically complete freedom in their charging (the for-hire truckers already had this freedom). The railways do not even have to publish their actual charges, nor are they required to maintain any prescribed relationships between various rates.

The excuse may be offered, in extenuation of our American backwardness in dealing realisically with these unequivocal economic facts, that "conditions in Britain differ from those in the U.S." As far as competition in transportation is concerned, that assertion is true in only one small particular. That is that, in America, we have competition as between railways to consider, whereas in Britain the railways are unified. That difference is of sufficient importance to justify the continuation, with us, of some degree of regulation of competition *as between one railroad and another.*

But there is no essential difference, economically, between Britain and America when it comes to competition of railways with other agencies of transportation. In both countries shippers or receivers of freight are free to truck their goods in their own vehicles as they see fit. If common carriers are going to be able to attract the business they can handle at lower cost than these private carriers, then there are only two possible alternatives, either in Britain or America, viz., (1) either the operations of private and other unregulated carriers must be severely limited, or (2) the common carriers must be permitted to use their cost advantage in bidding for traffic just as freely as the unregulated carriers do in diverting traffic from the common carriers to themselves.

It is a good thing for the national economic welfare—if private carriers divert traffic from the common carriers when the private carriers can handle it at lower actual costs. But, by the same token, it is inimical to national economic welfare if the common carriers have to relinquish traffic to private or other unregulated carriers—not for any reason of superior economy, but solely because an outdated system of regulation continues to deny common carriers the right to use their economic advantage, where they have it.

These facts are not subject to question. Neither is the situation one of such complexity that it is beyond the comprehension of people of average intelligence. It reflects no great credit on this country's quality of statesmanship in transportation matters that we have been so slow to realize and act realistically in the light of such obvious and economically important facts.

The "Weeks Report" Isn't Perfect

It proceeds in the right direction, but reforms it urges are "decidedly limited" in view of revolutionary changes in transport technology

By DUDLEY F. PEGRUM
Professor of Economics
University of California at Los Angeles

The debate on the report of the Presidential Advisory Committee on Transportation has not started out on a particularly objective plane. Most of those who are criticizing the report are not doing so from the standpoint of economic principles, or the advancement of the national welfare. Spokesmen for the trucking and inland waterway interests, for example, have plainly stated that the existing regulatory set-up is quite satisfactory, and needs little or no change. Some railroad executives have expressed much the same opinion.

Most railroad people would be willing to accept the bulk of the report, but some of them are apprehensive of the proposals relative to maximum rates—and even more of them shy away from "volume" rates. The railway unions—while friendly to regulatory relief likely to put more traffic on the rails—are quite opposed to having relief for the railroads take the form of discontinuing unprofitable trains; and the state regulatory commissions would probably join them in this opinion.

The Narrow View

In short, the report is getting a great deal of critical attention from the standpoint of the self-interest of particular groups. It is getting next to none at all from the vastly more important criterion of economic principles which must govern public policy if a private and competitive transport system is to be maintained. In this respect the report itself is sound—as far as it goes. But it does not go very far. Perhaps the basic difficulty stems from the fact that the interested parties and even the members of the Advisory Committee have failed to grasp the real implications of the changed structure of transport.

In its underlying assumptions, the report is quite in harmony with the developments of the 1930's which led to the passage of the Motor Carrier Act and the Transportation Act of 1940. Those legislative acts were based on the premise that all carriers should be regulated in the same pattern, that the common carrier concept should be extended as widely as possible, and that one of the central purposes of regulation was to protect the common carrier.

These tenets continue to be accepted without careful evaluation of the assumptions which underlie them and without careful analysis of the structural economic characteristics of the agencies which render the various transport services. Indeed, they seem to have been accepted without even an examination of the implications of the competition which is predicated as a primary conditioning factor of public policy.

The title page of the report carries the implication that it deals comprehensively with federal transportation policy. The fact is, however, that the document concerns itself only with that segment of transportation presently under the jurisdiction of the Interstate Commerce Commission. The report itself asserts that it is basically concerned with common carrier regulation—but it omits consideration of pipelines and air transportation. Water transportation comes in for attention principally as the proposed recipient of additional regulation, so as to bring more of it within the common carrier concept. Since it is ICC regulation and the common carrier segment of transportation that is the report's almost exclusive concern, it follows naturally that railroads get the most attention, as the primary common carriers under the ICC. Much more limited attention is given to motor carriers.

Nothing on "Public Aids"

The restricted and cautious scope of the report is perhaps best evidenced by the fact that it ignores entirely the question of public aids to highway, air and water transportation—an aspect of public policy which is quite as much in need of objective and critical appraisal as the unequal impact of regulation on the various segments of transportation.

When considered in the light of the revolutionary technological changes which have occurred in transportation, the report's recommendations are decidedly limited. The document is noteworthy, therefore, not for proposing far-reaching reforms—but rather because, in the face of so many changes in the technological aspects of transportation, the Advisory Committee still believes that so

THE REPORT'S SHORTCOMINGS

Professor Pegrum believes the Cabinet Committee Report on Transportation falls short of perfection in several important particulars, among them the following:

- **Fails to make clear that the regulatory problem as between one railroad and another is quite different from that of regulating competition between different types of transportation, e.g., railroads and trucks.**
- **Neglects to go into the question of unequal "public aids" to various types of transportation. Continued participation of private enterprise in transportation, he insists, requires equality of treatment —and unequal aid, or even aid to all alike, is a threat to continued private enterprise.**
- **Does not discern that rate competition between railroads still needs regulation—while competition between railroads and other agencies, or between carriers other than railroads would be sound without any regulation.**

Despite these imperfections, the report "is a start in the right direction," he concludes.

"The present transport system of the United States exhibits the characteristics of both competition and monopoly. It is this fact which creates the complications that lie at the bottom of the present problem of transport regulation."

little change in the government's regulatory policy is needed.

The central conclusions are two in number, viz., (1) that regulation should permit greater "reliance on competitive forces of transportation in rate-making" and (2) that regulation should assure "the maintenance of a modernized and financially strong system of common carrier transportation."

The rail carriers are probably more satisfied with the recommendations than any of the others. This is because they are the ones who have been most severely restricted by regulation for the last forty years. The committee makes proposals designed to ease some of this. Nevertheless, the rail carriers feel that the report does not go far enough in relieving them from regulatory restrictions.

The railroads want more freedom of decision on matters affecting the services they offer and the prices they charge for them. They are not taking the position that the framework of regulation should be left as it is, and be extended to all agencies alike. They want the burden of regulation to be lightened and then applied to all alike. They argue that they are no longer a monopoly type of industry and that they should not continue to be treated as though they were. How far they would wish to go in the direction of a non-regulated industry is not clear.

This writer has never seen a comprehensive presentation of the railroad point of view based on an analysis of railroad economics in the current setting of alternative sources of transport supply for the consumer. It is doubtful that they would want policy to be carried to the point where such matters as extension of new rail facilities and rail lines could be undertaken without the necessity of seeking public consent.

The Protectionist Viewpoint

Behind the differences in points of view on the recommendations contained in the report, three basic considerations condition the position taken by the various carrier interests:

1. Each agency wants to be permitted to compete for traffic;

2. Each agency wants limitations imposed upon the power of rival agencies to compete;

3. Each agency wants to impose limitations on competition within its own group.

In short, the carrier approach to the present transport situation is the familiar protectionist one. It was expressed some years ago at commission hearings by motor carriers seeking certificates for operation, when they supported regulated competition. What they meant was that they wanted to be able to argue *for* competition when they were seeking a certificate—and then *against* competition when they got it. And this is also the spirit of the report of the Advisory Committee, despite all the statements about the vigor and pervasiveness of competition. The type of regulatory policy which the report advocates is only a little less obsolete and unrealistic than the regulation which it proposes to replace.

Regulation of the type which developed for the railroads was not entirely wrong nor without justification in light of the economics of the situation. Furthermore, the changes that have taken place in transport in recent years have not altered the structural characteristics of the railroads one whit. On the other hand, the environmental factors have been changed radically. For rival agencies to contend that this does not call for fundamentally different policies is totally unrealistic. What is more, the refusal or failure of these agencies to recognize that they are not entitled to the kind of protection given to railroads is equally unrealistic. Until all parties understand the nature of competition in transport today and the implications of that competition, confusion of thinking and contradictory approaches will continue to prevail.

In the field of business in general, direct competition takes place between enterprises that have essentially the same structural economic characteristics. For competition to be tolerably effective within an industry the costs of production must exhibit a relatively high degree of variability with output. At the same time, there must also be a rather wide opportunity of choice by customers among producers and among alternatives. Where these characteristics are not present, as in public utilities such as natural gas and electric power, for example, the tendency toward monopoly is inescapable.

The present transport system of the United States exhibits the characteristics of both competition and monopoly. It is this fact which creates the complications that lie at the bottom of the present transport problem.

Railroads possess the economic characteristics of industries classified by economists as "natural monopolies." In this respect they fall into the same category as public utilities such as electric light and power, natural gas, and telephones. The classification as natural monopolies arises from the conditions under which the production of the services takes place. The economic basis of this is: (1) the investment in fixed and specialized plant is large relative to the annual revenue received in return; and (2) the services which are rendered must be taken in conjunction with the physical facilities which render them. As a consequence, competition among the members of an industry with these characteristics is necessarily limited in scope. If each were to try to compete for the same customers over the territory covered by their entire systems, the complete duplication of facilities would make it impossible for any of them to survive. This is what is meant by "ruinous competition."

This means that *intra*-industry or *intra*-agency competition will be ruinous under such circumstances. But

"Apart from pipelines, which are a highly specialized agency, it is the railroads, because of their economic characteristics, that limit the full play of competitive forces in the field of transportation."

this does not apply to *inter*-agency competition. Competition among electric light and power companies will be ruinous, or between gas companies. It will not be ruinous between electric companies and gas companies. The same remarks apply to inter-agency competition.

Because railroads are natural monopolies, effective overall competition among them is impossible. There are several reasons for this. Capital has to be invested in amounts which are large relative to the market opportunities available for the services. As a result of this, capital costs form a relatively large part of the total costs of rendering railroad services and any addition to the plant involves a large proportionate increase in capital investment necessitating a large prospective increase in the market. Much of the investment is also specialized both as to function and markets. Railroad tracks are useful only where they are laid and cannot readily be turned to other areas if the markets shift. In other words, they have little use except for supplying railroad transportation to a geographically fixed area. In addition, the technological conditions are such that utilization of the motive equipment must be under the control of one operator, in contrast to highway, water or air transport.

Cost-Service Relationships

These characteristics, together with the fact that a railroad offers a variety of transport services, give rise to a complicated set of cost-service relationships. As a consequence, a significant part of the costs cannot be traced, logically or practically, to the services which are being rendered. For any period, a large part of them will go on even though there may be no traffic or traffic is severely reduced. This means that a close cost-price relationship in the competitive sense of logically traceable and allocable costs cannot be established in the railroad industry.

The economic features which characterize railroad transportation are almost completely lacking in motor transport. As the Advisory Committee says: "Their economic characteristics are virtually opposite." The technical units for motor carriers are relatively small and may be very small. Operations may be started with a very small investment, and expansion may be undertaken with small increment of investment in direct and almost immediate response to growth in traffic. Most of the facilities are not highly specialized or unalterably committed to a particular market or geographic area and they can readily be shifted to any other market. Physically, the highways or routes are available to all who wish to use them. Economic limitations on the additions to facilities are slight because small increases in traffic increase the need for additional equipment, at least within very narrow limits, and these additions may be made in very small units.

In other words, with motor carriers it is the variable costs that loom large. Fixed costs constitute a small portion of total costs.

These cost characteristics mean that most motor transport costs can be traced directly to the traffic which is being handled. A close cost-price relationship in the competitive sense of logically traceable and allocable costs can be established. The motor vehicle like the tramp steamer can, in terms of the economics of the situation, compete for traffic under conditions of almost classical simplicity.

The other agencies which make up the transport system of this country fall into one of the two foregoing categories. Pipelines have essentially the same characteristics as the railroads. The analysis of motor transport applies with equal force to water transportation. Air transport falls into the economic category of a strongly competitive industry, although fixed costs probably assume a somewhat more important role than they do for motor transportation.

Apart from pipelines, which are a highly specialized agency, it is the railroads, because of their economic characteristics, that limit the full play of competitive forces in the field of transportation. If they possessed the characteristics of motor, water and air transport it is difficult to see why competition should not be allowed full play as it is in industry in general. The fact that it is the railroad, however, that is at the root of the problem emphasizes the point that the major issue today is that of *inter*-agency competition. Unfortunately, legislation to date, and the Report of the Advisory Committee, assume that *intra*-agency competition—that is, competition among the carriers of each agency—present the same problems as competition among the railroads. This writer has not seen an analysis that supports this position.

The fact of the matter is that competition presents transportation policy today with two distinct sets of conditions. The first is that which relates to inter-agency competition, which seems to imply a uniformity of treatment of all agencies so far as competition among the agencies is concerned. The second is that which relates to intra-agency competition and which requires regulation based on the economic characteristics of each agency. It is these implications, which the acceptance of competition as the pervasive force in the transport system of today must reckon with, that have been given inadequate attention in proposals for the revision of public policy.

What Kind of Regulation?

Acceptance of competition as a primary factor in present day transport policy does not mean that each competitor should be given a free hand to do as he pleases toward a rival or in his dealings with customers. All competition, at least in an organized and orderly

"Beyond insisting that common carriers be common carriers and not anything else, there seems to be no economic reason for protecting motor, water and air carriers. It is the public that needs protection, not the carriers."

society, requires rules of the game. When these are not present, order breaks down and war takes over. The question is not whether there shall be any rules, but rather what kind of rules shall be prescribed.

The objective of the rules is to protect the public against exploitation and at the same time to assure it of the services it is willing to pay for. The rules establish the limits within which the play of competitive forces is given a free hand. Producers are permitted to seek business as long as they wish to do so. Consumers are able to get the things they want if they are willing to pay for them. In addition, the forces of competition prevent restrictions on output that will result in monopoly profits.

The objectives of transport policy in the United States were set forth in the Transportation Act of 1940 and have been reiterated in the Report of the Presidential Advisory Committee. They consist of three elements:

1. An adequate national transport system;
2. An adequate system at minimum cost to the consuming public;
3. The most efficient allocation of traffic among the various agencies.

These objectives can be achieved only within the framework of competitive standards. This means that each agency should be allowed to haul the traffic which it can get at prices which are profitable to it. *In inter-agency competition, so long as a carrier can move the traffic at rates which more than cover the costs directly attributable to that traffic, thereby bettering the carrier's net revenue position in comparison with what it would be if the traffic were not obtained, the carrier should be permitted to seek the business.* To prevent it from doing so results in unused capacity, a misuse of economic resources and an allocation of traffic contrary to relative efficiency as evidenced by cost considerations. The only beneficiary of the failure to follow this policy is the carrier which is protected from losing business to its more competent rival.

Consequences of Competition

Opposition to the above competitive guide to public policy in regulation arises either from a lack of understanding of *the distinction between protection of competition and protection of competitors*, or from the desire to be protected against competition. Frequently, both play a part. The protection of competition in transport demands a public policy which permits a carrier to obtain traffic if it is better off by doing so. This, of course, is bound to be hard on some of the competitors, but that is the essence of competition.

A policy designed to protect competitors, on the other hand, tends to destroy competition itself. The very essence of competition lies in the absence of protection for competitors. If public policy is erected on the idea of protection of competitors, the market is eliminated as the testing ground for decision. If, however, "the general atmosphere of pervasive competition" is to be recognized as the basis of public policy in transport, then expansion of agency facilities should be determined by cost considerations, not by protective ones.

For example, motor carriers should not be denied certificates for the purpose of protecting the railroads. Nor is the current practice of allowing railroads to contest the granting of a certificate or permit to a motor carrier in keeping with utilizing competition as a guiding principle. If motor carriers can compete successfully and are willing to try to do so they should be given permission. These remarks apply with equal force in the opposite direction.

Competitors of the railroads contend that public policy based upon the right to try to capture all profitable traffic would result in unfair competition They maintain that the preferred position occupied by the railroads over a considerable volume of traffic enables them to recover costs on this traffic that they cannot meet on the highly competitive business. This, however, does not make the competition unfair. The policy advocated in this presentation would permit no traffic to be taken that made the carrier worse off than if it did not get it. The only minimum necessary to prevent unfair competition is one that is designed to prohibit pricing that aims at driving competitors out of business. Minimum rates that attract traffic which increases profitability to the carrier which can get it, are in the public interest and are a necessary part of a public policy which relies on competition.

The report of the Advisory Committee stresses the desirability of protecting and preserving common carrier transportation. If competition is to play the role that the report seems to envisage, then the protection to be given the common carrier against the non-common carrier is that which will prevent non-common carriers from doing a common carrier business.

The idea of a common carrier is that such an operator assumes certain obligations to the public in return for which he receives certain privileges. When common carrier and railroads were almost synonymous terms, and as regulation of them developed, one outstanding privilege was protection, within limits, of competition from other railroads. From this, the notion seems to have emerged that the responsibilities of the common carrier created the need for limiting competition. This, however, was not the reason. The limitation on competition arose from the economic characteristics of rail transport. Similar circumstances have led to limitations on competition in public utilities. It has been said quite accurately: "They are not monopolies because they are public utilities; they are public utilities because they are monopolies."

Protection of common carrier transportation can do little to reduce *inter*-agency competition if competition is

to play a decisive role in public policy and if rates are to "be allowed to reflect cost advantages and to their full extent."

Protection of common carrier transportation within each agency—that is, *intra*-agency competition—presents other problems. Here the issue is most acute with motor, water and air transport. None of these is a natural monopoly and they do not need protection from competition, at least so far as economics is concerned.

Beyond insisting that common carriers be common carriers and not anything else, there seems to be no economic reason for protecting motor, water and air carriers. It is the public that needs protection, not the carriers.

Where Protection Is Needed

If a firm wishes to enter the common carrier business it should be allowed to do so, providing that it can demonstrate to the regulatory authorities that it is fit, willing and able to the extent necessary to carry out its responsibilities to its customers. It should not be denied a certificate on the ground that entry would injure existing carriers or that the market is being adequately served. It is the function of competition to be the arbiter of this question. To give a commission power to make the decision not only invites arbitrary action, it makes it practically impossible to avoid it.

If public policy is to give full recognition to the fact that we possess "a competitive system of transport that for all practical purposes has eliminated the monopoly element," a radical revision of present regulation is necessary. This revision will have to go far beyond the recommendations of the Advisory Committee.

The committee failed to grasp the implications of the competitive system it acknowledged, at least if the report portrayed its thinking. It failed to propose adequate steps to give the public the benefits of the competition which recent developments in technology have made available. In fact the report did little more than skim the surface in its recommendations for modernizing the role of competition in transport. At that, it probably went further in the overall picture than the various transport agencies and Congress are willing to accept.

Merely establishing the rules of competition for transport will not of itself, however, provide adequate and fair competition. Even if the ideas advanced in this article, which go much further than current proposals, were adopted, much would still remain to be done. Competition cannot survive as an effective force and economical transportation cannot be obtained unless the cost burdens which the various carriers have to bear reflect the true costs which the supplying of the services entails. In default of this, aid will have to be given to the various agencies on a comparable basis or private enterprise in commercial transport will disappear. In fact it will disappear if public aid is accorded to all alike.

Federal transportation policy has a long and arduous road to travel before it catches up with the competitive situation which recent technological developments have created. Many of the basic requirements are not included in present legislative proposals. However, it is fortunate that recognition has at least been given to the paramount importance of competition in transport, by an authoritative policy-making committee.

Benchmarks and Yardsticks

AN OBSERVANT RAILROADER—and we hope to identify him more specifically before long—has noted that railroad management tends to do the best job of managing in those areas where numerical performance ratios are available. For example, there are mighty few executive and operating officers who are not acutely aware at all times of their transportation and maintenance ratios. Their subordinates are also kept attentive to these and other performance ratios—especially if they are not quite as good as the "other fellow's."

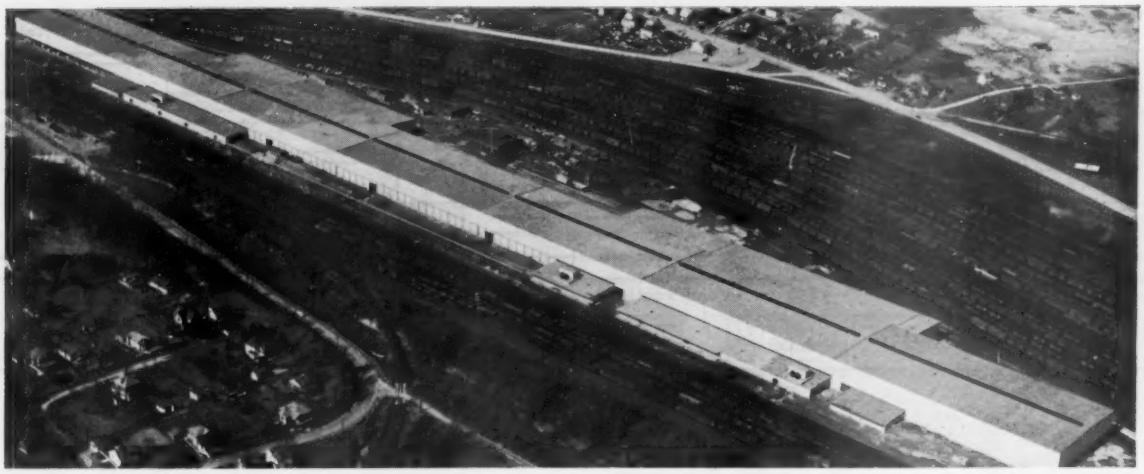
This observer further remarks that there are some vitally important areas of railroad performance which do not have such ratios—and consequently where management has to rely on haphazard information, with the result that performance is likely to be "spotty" or substandard.

He cites two such areas. One may be called "passenger satisfaction." What ratio of the total number of passengers alighting from a railroad's trains during the course of a day or a week or a month is 100 per cent pleased with the service? Of the percentage displeased, what was the cause of their displeasure? If every day—or even every week or once a month—the responsible officers could have index figures on such questions, as specific as the transportation or hot-box ratios are, doubtless service standards in the passenger-movement business would be a lot more dependably good than they are now.

Another area wherein this railroader believes management could make advantageous use of more precise information is in that of service to shippers. Figures are now available on average train speed and average miles per car-day. But these figures tell management very little about how well shippers and receivers of freight are being served. A figure which *would* reveal service performance to freight service customers would be *car-miles per hour from shipper to consignee. Train speed is certainly better than car speed.*

Such figures, admittedly, cannot be derived from present available reports. Neither could they be developed on the all-inclusive basis of most present railroad statistics, without prohibitive cost —and without an intolerable bother to patrons. However, all-inclusive data are not needed. Skilful sampling—probably with very small and inexpensive samples—might well yield ratios which would be accurate enough for purposes of management control.

The production of customer satisfaction is just as important in a competitive business as economy of operation is. Can't it be brought under much the same kind of statistical measurement and control as that of physical operations? J. G. L.



NEW $12-MILLION SHOP is in the area of a former classification yard which now provides track storage space for bad order cars awaiting shopping. Artificial illumination is used exclusively—there are no windows or skylights. Because of its 2,760-ft length, it was necessary to provide six expansion joints evenly spaced along shop walls and roof.

KEYSTONE OF PENNSY CAR REPAIRS . . .

Samuel Rea Shop Begins Production

"Largest under one roof"—the $12,000,000 Hollidaysburg shop is being tooled for production line freight car repair

Big and up-to-date. The Samuel Rea car repair shop can only be described this way as it looms over the Pennsylvania yard at Hollidaysburg, Pa. Already cars are coming out of the $12-million plant. When its three production lines are in full operation, 50 cars will be rolling out each day after undergoing heavy repairs.

Hollidaysburg is ten miles south of Altoona, long the keystone of the Pennsylvania's mechanical department operations. The Rea shop supplements the complex operation at Altoona. Gradually the freight car repairs that have been done in several of the Altoona shops are being moved to Hollidaysburg. This will eventually leave Altoona devoted entirely to the rebuilding of locomotives and passenger equipment, to the building of new freight cars, and to the production of freight car parts.

The shop site at Hollidaysburg is located on a PRR line that parallels the main line but bypasses the Horseshoe Curve and Altoona. Today there is little through movement over this route except when the main line cannot be used. In the past, this bypass was regularly used by some through freights, and Hollidaysburg had a hump classification yard and a large locomotive terminal. All this ended years ago, and the Hollidaysburg facilities were either abandoned or used only for storage.

Weatherproof Production Line

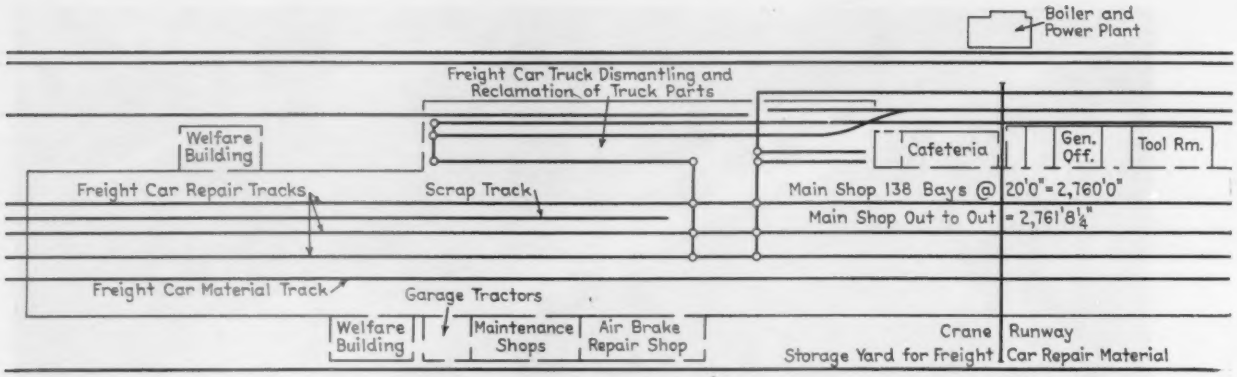
In 1949 studies were started with the aim of weatherproofing PRR car repairs. It was known that it was worth while to get as much of this work as possible under roof and no longer subject to interruptions caused by rain and cold weather. At the same time, it was decided that a production line might be established if there were facilities for accumulating sufficient cars of the same type. Successful production-line repair requires steady flow.

The site at Hollidaysburg was selected because the former classification yard afforded sufficient area for the huge plant that was planned. Part of this yard would provide the track space for accumulating cars in sufficient

WHAT HAS BEEN USED IN BUILDING THE REA SHOP

(TYPICAL CONSTRUCTION MATERIAL TOTALS)

Structural steel, lb	13,318,494
Reinforcing steel in caissons and in spandrel beams, lb	545,753
Roof—precast concrete slabs, sq ft	704,472
Cement blocks:	
Outside walls, sq ft	49,211
Partitions, sq ft	21,016
Concrete:	
Caissons, cu yd	4,515
Spandrel beams, cu yd	1,516
Footings, cu yd	403
6-in. flooring, sq ft	608,000
5-in. flooring, sq ft	54,000
4-in. flooring, sq ft	36,000
Corrugated asbestos base siding, sq ft	231,864
Railroad track, miles	Over 10
Wiring:	
11,000 volt primary, linear ft	15,722
Secondary, linear ft	918,720
Fluorescent lights, total length, ft	131,000



THE 2,760-FT LENGTH of this shop when tooled for production line repairs will see cars moving from west to

numbers to justify production-line repairs. A minimum of grading was required. Finally, the proximity of the Altoona shops and the reclamation plant permitted integrating all these operations with the Samuel Rea shop.

In June 1952, the PRR directors authorized the construction of the new car shop. Construction began in October 1952, when removal of the hump was started. The summer of 1955 saw the first car turned out. Late fall sees the starting of two of the production lines. During 1956 the shop should be approaching its rated output.

"Largest Under One Roof"

The "largest car repair operation under one roof" is the way the Pennsy describes the Samuel Rea shop. There are about three miles of railroad track installed under 704,472 sq ft of roof. The main shop is over 2,760 ft long and has a width of 180 ft. Along the north side are two large bays used for truck and wheel work. The main shop and these two truck bays are floored throughout with 6-in. concrete.

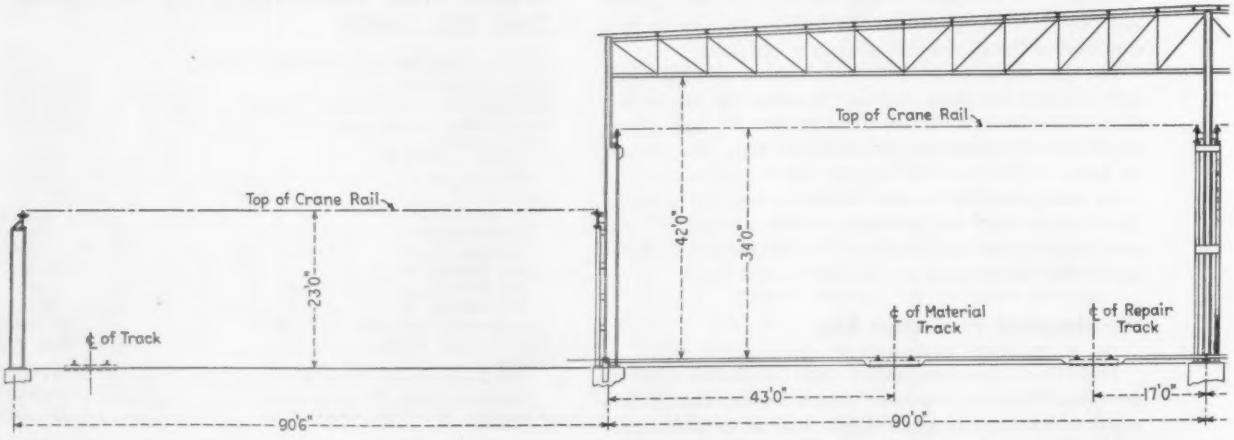
Shop office, tool room, cafeteria and locker rooms are also built along the north wall. Much of the south side of the building is devoted to stores department facilities. These require two warehouse buildings covering over 30,000 sq ft and equipped with covered unloading docks.

Who Was Samuel Rea?

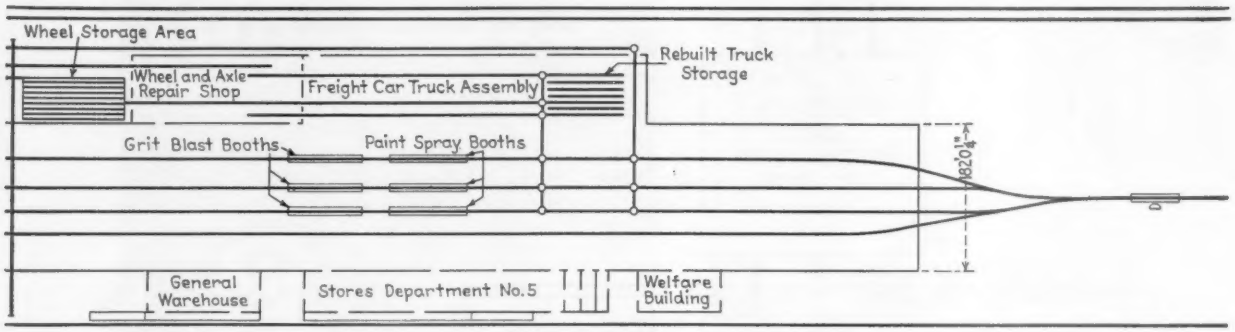
Samuel Rea, the Pennsylvania's ninth president, was born in Hollidaysburg on September 21, 1855. He was first employed by the PRR in 1871 as a chainman and rodman. In the years following, he held engineering and executive positions with the Pennsylvania, the Pittsburgh & Lake Erie, and the Maryland Central. In 1892 he returned to the PRR and, after making studies of European underground lines, was placed in charge of the construction of the New York tunnels and terminal. His administration as president from 1913 to 1925 was marked with the period of federal control during World War I and with the many adjustments that followed.

There is also an outside storage area about 800 ft long served by two overhead cranes. The south side of the main shop has maintenance bays and a garage for storing and maintaining the material-handling truck equipment which will service the shop. Additional locker rooms and an air brake repair bay are also located here.

East of the shop is a scale for light-weighing cars after they are rebuilt. This scale was formerly part of the equipment of the Hollidaysburg classification yard. It was renovated and lengthened before being installed at



CROSS SECTION shows the main bays, truck repair bay



east—left to right in this floor plan. Entire operation will be under roof.

the Rea shop. North of the shop building is a service building containing two 500-hp oil (or gas) fired boilers, and two 3,000-cfm synchronous-motor driven air compressors. Locker rooms, offices, cafeteria and some smaller work areas will be heated with steam-fed space heaters. The boiler plant will also heat wash water for the locker rooms. The main repair areas of the shop will not be heated.

An acetylene plant and an oxygen supply unit are being installed near the shop and will be operated by outside vendors. Natural gas and electricity are purchased from local utility companies, and water is procured from a PRR subsidiary. Sewage disposal is handled by the borough of Hollidaysburg.

Car Repair Operations

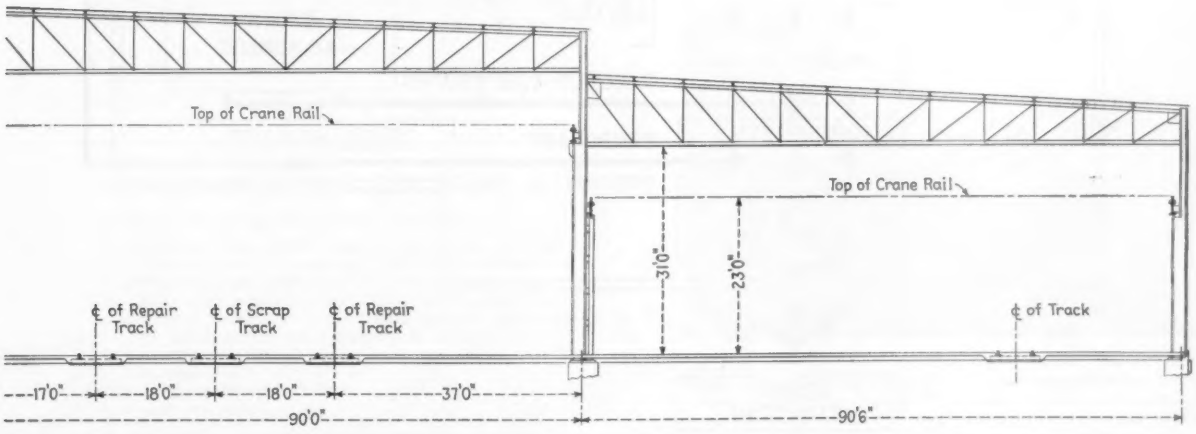
Production lines will be operated over three tracks that run the full 2,760 ft length of the building. A fourth full-length track at the south side has been designed for material handling, but could be used for production if the need arose. Maximum flexibility has been built into the three production-line tracks so they can be tooled to make repairs on any type of freight car. It is possible that all three lines may be repairing the same class of car at the same time. It is equally probable that each line might be doing a different type of car. Along the entire length of the tracks are key-slots in the concrete floor. They will be used for erecting PRR-designed portable scaffolding. This can be set up and dismantled as the production picture changes.

Service boxes are provided on each side of each track on 40-ft centers through the shop. This permits the use of short hoses, short welding cables, and short electric lines. It leaves the shop floors open for the movement of material trucks.

While there is a maximum of flexibility in the production tracks, the north and south walls of the shop will be filled with permanent equipment. There will be a set of jigs for repairing box car sides and doors. Numerous specialized machines will be devoted only to the repair of hopper car parts. Because of their specialization, some of these areas will not be operated during certain repair runs.

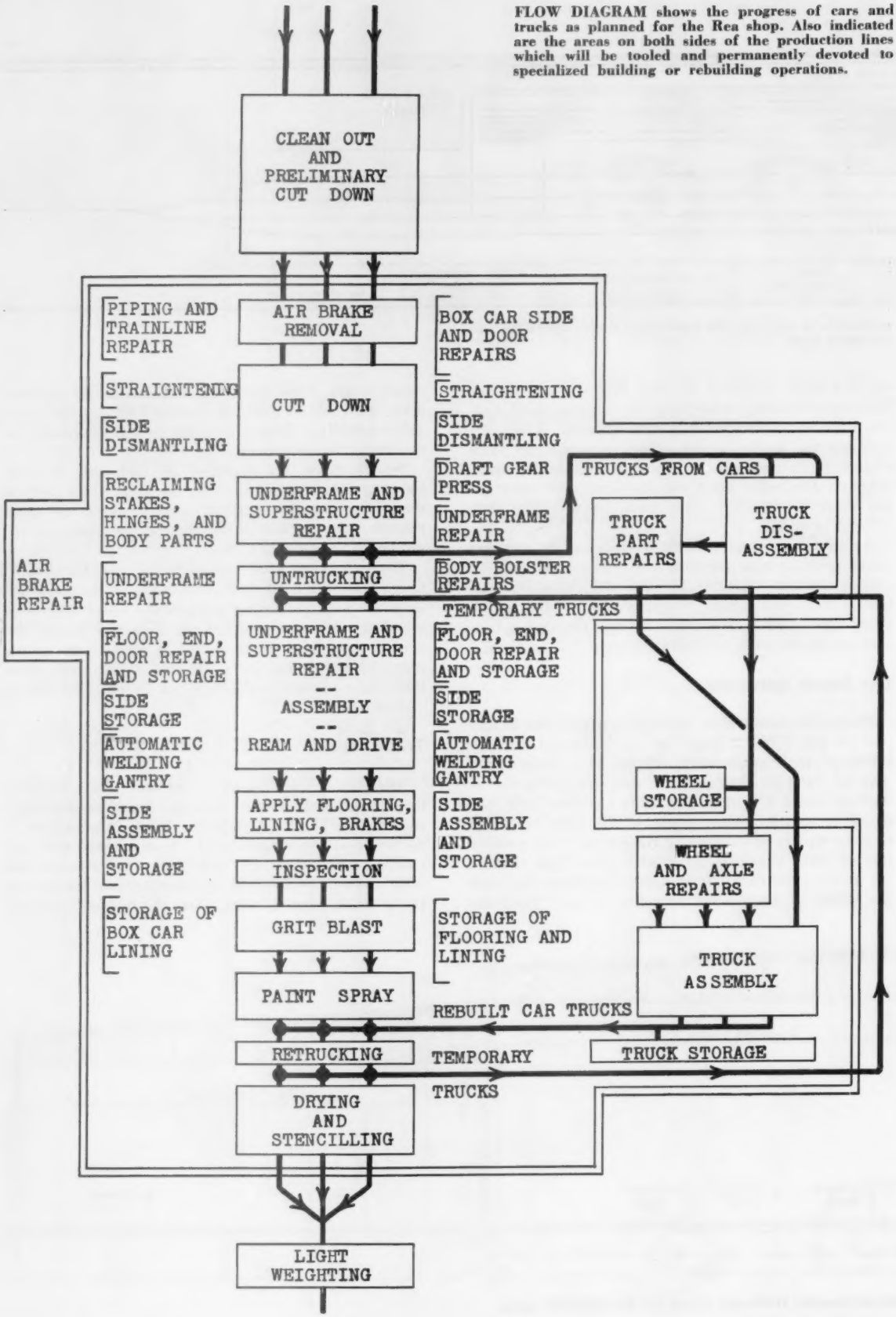
Truck Repairs

After the cars are cut down and ready for rebuilding, they are transferred from their own trucks to temporary shop trucks. The road trucks then move into the first of the truck areas for dismantling. Wheels are cleaned and moved to the wheel and axle shop. Side frames and other truck parts are built up, annealed and transferred to the truck assembly area. Here the restored axle and

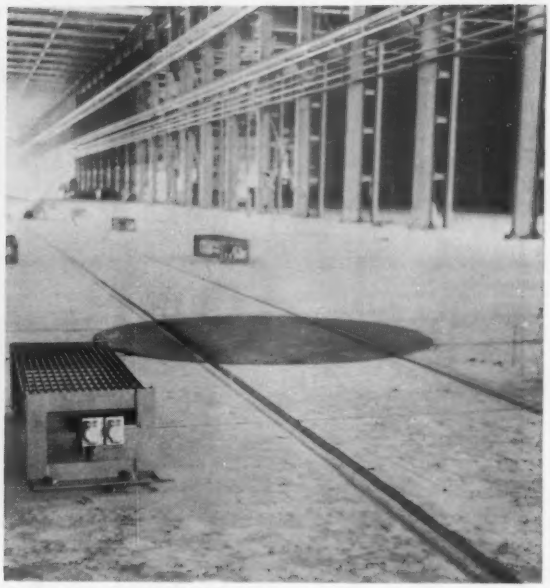


and material storage. Overhead cranes are provided for each.

FLOW DIAGRAM shows the progress of cars and trucks as planned for the Rea shop. Also indicated are the areas on both sides of the production lines which will be tooled and permanently devoted to specialized building or rebuilding operations.



SERVICE LINES are carried along the column posts at the north side of the building. Mounted on the floor is a track assembly which will later be fitted with automatic welding machines.



TURNTABLE installed in the shop floor is duplicated at many points where car trucks leave or enter production line tracks. Electric current is supplied from spaced outlet boxes.

wheel sets, and the rebuilt truck components are assembled and move back into the main production line. In the meantime, the body has been rebuilt and inspected. After the blasting equipment is installed, cars will pass through a grit blast for cleaning prior to painting. Also scheduled for delivery next year are traveling paint spray booths which will be installed over each of the production tracks and will follow the grit blast operation.

The freshly painted, rebuilt car body goes back onto road trucks. The temporary shop trucks that carried the car through the assembly, cleaning and painting operations move back up the production line for reuse. The car is stenciled while still in the car shop. Finally it moves out on to the scale for light-weighting.

Car movement through the production line is to be accomplished by floor-mounted winches which will have the capacity to move up to four cars at one time. Twenty-four of these winches will be installed along the three tracks. Material will be moved to the production lines by shop trucks and by overhead cranes which span every bay. These overhead cranes also will be used in some of the production operations.

Forecasted daily output of 50 cars from the new shop is based on two-shift operation of each of the three repair tracks. Third shift activities would be devoted to cleaning up and restocking the production line for the next day's operations.

What About Altoona?

The Samuel Rea car repair shop is operated as a part of the Altoona Works, and is under the direction of the works manager. The establishment of the new shop requires changes in the car repair organization as widely scattered groups at Altoona are consolidated at Hollidaysburg.

While is could be utilized for car assembly, this new shop is primarily a repair operation. The equipment and layout at Samuel Rea has been chosen and designed for straightening, welding, restoring and assembling car components. Production of new parts—operations typically requiring shearing, punching, forming and forging —will continue to be done at Altoona.

TRUCK REPAIR bays on the north side of the shop embrace the general office, cafeteria and several other service rooms. Locker or "welfare" rooms elsewhere around the main shop have similar appearance. Transformer station on the roof is rated at 3,000 kva.

WHAT MAKES THE REA SHOP RUN

(EXAMPLES OF EQUIPMENT BEING INSTALLED)

- 6 Transformer and switching stations with a total of 14,000 kva. There are two 1,000-kva units and four 3,000-kva units.
- 2 500-hp automatic boilers for oil or gas firing.
- 2 3,000-cfm air compressors with 500-hp synchronous motors.
- 16 Overhead traveling cranes. All have spans of approximately 90 ft, and capacities range from 7.5 to 25 tons.
- 24 Car-pulling winches.
- 3 Grit blast units.
- 3 Traveling paint spray units.
- 1 Freight car scale.

—ANNUAL MEETING OF AAR SIGNAL SECTION

OFFICERS OF THE SIGNAL SECTION, AAR, left to right: E. N. Fox, B&M, first vice-chairman; R. H. C. Balliet, secretary; T. W. Hays, UP, chairman; and A. L. Essman, Burlington, second vice-chairman.

How Signaling Is Improving

Equitable sharing of costs of crossing protection; effective shunting of track circuits by passenger cars using off-tread brakes; and CTC for a whole railroad, controlled from one point, among subjects discussed in convention

Cities, towns, states and the federal government should pay their fair share of not only the installation cost but also the maintenance expense of highway-railroad grade crossing protection. This is the essence of the opening address by Chairman T. W. Hays, general signal engineer, Union Pacific, at the annual meeting of the AAR Signal Section at New Orleans, October 11-13.

Mr. Hays explained that crossing protection now being installed must include many special control circuits and extra protective features. All these requirements are due, he said, not so much to increased rail traffic as to increases in highway traffic. "Where the congestion is at a street crossing another street, regulatory (not protective) traffic signals are installed with taxpayers' money. Why, then, should we not expect that a share of the cost of installing protective signals at a street and railway intersection, be borne by the political subdivision?

"The federal government has recognized such an arrangement as being equitable when crossing protection is provided at federal highway intersections with railroads. Some states also assume a fair share of the cost of crossing protection on state highways, and a few provide funds to assist cities and towns to share in the cost of such protection. It is time that all political subdivisions realize the justice of partial participation in these installations.

"We should also request that the political subdivisions assume a just share of the cost of maintenance of the protection. Maintenance of crossing protective devices involving the expenditure of federal funds for protection on federal highways is recognized. But apparently the states take the stand, 'You maintain it at your expense.'

"Standards should be revised to provide that funds allocated to the states for grade crossing elimination and grade crossing protection be for installation and maintenance. And the question of how the proportion of maintenance to be borne by the funds would be determined and applied, should be negotiated subject, of course, to the approval of the Bureau of Public Roads."

The program included four other papers, one address, two panel discussions, and reports of the twelve standing committees, and a special committee on education of signal employees. The educational report included the showing of a sound slide film by F. O. Garrett, operating rules instructor of the Missouri Pacific, and an explanation of production of the film by Irvin A. Eckman of the public relations department of the Missouri Pacific. He said that duplicates of the picture slide film and coordinated sound record are available to other railroads, at cost.

Restraints Can Be Reduced

. . . Suggests Commissioner Clarke

"By cooperation, I am convinced that the present high standards of railroad safety can be maintained and the necessary restraints of regulation considerably reduced." This conclusion was emphasized by Owen Clarke, commissioner of the Interstate Commerce Commission, in his address.

As an example, Mr. Clarke pointed out that a section of the commission's rules, in effect since 1939, requires that hand-operated main track switches shall be electrically locked in CTC territory where movements are at speeds exceeding 20 mph. However, when railroad earnings dropped to a comparatively low level in 1954, the

expense of electrically locking each hand-operated switch in a proposed CTC installation so increased the estimate for the project that its authorization was virtually precluded. When the commission realized that perhaps the rigid enforcement of the rule was retarding installation of traffic control, it concluded that some relief was justified. Relief so far granted has been of two kinds, permitting (1) installation of mechanical time locks in lieu of electric locks under certain conditions, and (2) omission of electric locking at industrial sidings where trains are not permitted to clear the main track.

Commissioner Clarke discussed the work of the AAR Committee on Train Operation, Control and Signals on track-circuit shunting by lightweight passenger cars, including recommended requisites for testing of track circuit shunting. One railroad, he said, has experimented with a supplemental signal system (check-in and check-out). Tests demonstrated that the automatic signals were operated properly by a single-unit, self-propelled car without shunting of track circuits.

"If a way is found to improve the shunting ability of cars," the speaker continued, "then the question must be asked—would it be more economical to equip every car with such devices, or to install a system that would supplement or even entirely replace the existing signal system? Also, it is conceivable that a solution to the problem may be found by improving the sensitivity of track circuits to the extent where positive shunting by any type of equipment is guaranteed. How would the cost of modifying the track circuits over an entire line compare with the cost of a supplemental signal system? Or how would the cost of improving the sensitivity of track circuits compare with the expense of installing devices on the cars that would improve their shunting ability? Obviously, economics cannot be ignored in arriving at a final answer."

Standardization to Reduce Costs

. . . Says E. A. Burgin

"Further standardization in the signal field may be one way of reducing signal costs without sacrificing any of those safety features which we customarily build into our installations. A higher degree of standardization is coming to the signal field, and if we do not accept it voluntarily, it will be forced upon us, either by our managements who will eventually become acutely aware of the immense savings to be effected through standardization, or by economic pressures resulting from the necessity to maintain larger signal plants without corresponding increases in our budgets."

Mr. Burgin, signal engineer of the Chesapeake & Ohio, warned that "the mere writing of a specification does not create a standard. Standardization of signal colors was attained only when the colors selected by Committee VI became generally accepted. If any sizable segment of the railroad industry had held out for colors of their own choosing, the entire industry would have been denied the advantages of color standardization. If a standard is to be attained, it is necessary to prepare a specification which will be acceptable to all.

"Industry standards are even more productive of economy. The great value of the true industry standard, prepared by representatives of all the users and all the principal manufacturers of the material or article, results from the following facts: (1) the standardized product is usually a superior product because the knowledge and experience of many persons are pooled in the preparation of a standard; (2) the standardized product is usually the cheapest suitable product available because when a standard is prepared, the problems of manufacture are given consideration along with those of the user; and (3) the standardized product is usually the most readily obtainable product because suppliers can afford to stock material which is widely used.

"To obtain the advantages of a higher degree of industry standardization, we should re-examine every specification and every drawing in our manual to determine whether or not it is being used generally, and, if not, why not. The next step is to rewrite those specifications and redraw those drawings which are not being used, taking pains in each case to provide for a product which our suppliers are willing to manufacture and one that is adequate for our needs, but no more expensive than absolutely necessary. . . .

"Some people confuse standardization with stagnation. Standardization is not a hindrance to progress. The great advances made by industry in this country during the past few years would not have been possible without a high degree of standardization in all our major industries. A higher degree of standardization in the railway signaling field will bring benefits to all of us."

Benefits from Committee Work

. . . Emphasized by L. B. Yarbrough

Active participation in the work of committees is a duty of each and every member of railroad signal departments, particularly the younger men, said the assistant superintendent signals and communications of the Wabash. Mr. Yarbrough said that a man willing to put forth a little extra effort will find himself advanced in the ranks of the Signal Section, and undoubtedly on his own railroad. Committee chairmen and subcommittee chairmen are the backbone of the section, and they are the ones who should develop into future leaders of their profession, as well as of the section.

Signals Affect Operating Ratio

. . . Says A. M. Crawford

"Signaling—originally designed to increase safety—is now heavily depended upon to expedite train movement. In fact, the safest method of moving trains has proved to be also the most efficient." The superintendent signals of the Pennsylvania went on as follows: "Developments now suggest that we rearrange and rebuild our plants to remove excess facilities. For this purpose, modern signaling—particularly CTC—permits us to fashion a smaller, more flexible outside plant than our older signal systems comprehended.

"Obviously it is sound business to reduce our fixed charges and maintenance charges by CTC installations when, by so doing, we also achieve greater maneuverability and increased traffic capacity. No time-saving device is too minor when it comes to mass transportation, for a minute here and a minute there will release thousands of cars per year for additional revenue service.

"In large classification yards, where mass production

suggests automation, signal devices are a 'must' to assure production and to reduce loss and damage. Movements of cuts over the hump may be automatically routed and retarded in a manner determined by the then existing situation on the particular classification track to which such cut is routed. Switches on humps leading to classification tracks may be operated most efficiently by Teletype tape or its equivalent.

"Modern signal equipment can automatically determine essential characteristics of each cut as it starts to roll down the hump. Its weight class, its tendency to accelerate, and its speed may be gaged and registered for automatic control of power retarders on upper slope of hump. This effects an orderly movement of cuts approaching the final group retarders. The importance of automatically moving a cut into a classification track at proper coupling speed cannot be overemphasized."

Shunting by Lightweight Cars

. . . Discussed by Panel

Positive and reliable shunting of track circuits by so-called lightweight passenger cars, especially those with off-tread brakes, and more especially those operated as single-car self-propelled units, is the No. 1 problem in signaling now. A panel discussion of this subject with W. S. Storms, signal engineer of the Erie, as moderator, included signal engineers of five railroads.

J. J. Coakley, Jersey Central, said that his road has four self-propelled cars equipped with off-tread brakes, which are operated as a four-car train on two runs daily, and as two two-car trains in hourly service during the day on 36 miles, a total of 524 train-miles being operated daily. As a result of tests at speeds up to 80 mph, many of the track circuits were adjusted to provide better shunting sensitivity. Rules were issued by the operating department as follows: "(1) Manual sanding must not be used except in an emergency, when operating rail diesel cars or light diesel engines. When rail diesel cars or light diesel engines are stopped on sand in automatic block signal territory or where automatic highway crossing protection is installed, the engineman must immediately make arrangements for moving forward or backward far enough to get at least one truck off the sanded rail. (2) Positive block must be maintained at all times when operating single-unit rail diesel cars. (3) Single-unit diesel units running light, maximum speed 30 mph."

S. B. Higginbottom, Long Island, said that his road has two lightweight self-propelled cars equipped with off-tread brakes, which are operated as single units under manual block rules, at maximum authorized speed restricted to 50 mph. These cars are equipped with wheel cleaning beryllium copper shoes using 25 lb pressure.

To minimize trouble on d-c track circuits, action was taken as follows: "(1) Adjust existing track circuits for maximum shunting sensitivity obtainable with present equipment; (2) provide higher track circuit voltages; (3) provide minimum stagger on insulated rail joints; (4) replace existing track relays with high-shunting sensitivity relays; (5) provide slow pick-up repeater of track relays to meet momentary loss of shunt; and (6) regage track to 4 ft 8¼ in."

A. L. Jordan, Baltimore & Ohio, reported that his road has 11 modern sleeping cars, weighing 139,400 lb each, and 10 self-propelled cars, all with off-tread brakes. The sleeping cars are operated in trains along with other cars which have tread-type brakes, and a lightweight car is not operated as the rear car in a train. These practices are the outgrowth of difficulties experienced with these cars shunting track circuits.

F. A. Tegeler, Western Pacific, reported that his railroad has two lightweight passenger cars with off-tread brakes, which have been in service since September 1950. These cars are operated as single-car local passenger trains on a 919-mile run. Mr. Tegeler said "We have developed certain factors which we believe provide the best possible approach toward providing continuously safe operation of single-unit Budd cars in signal territory. The stagger of insulated joints must be kept to a minimum. Our standard is maximum 58 in., minimum 38 in.

"A cast iron shoe riding on each wheel is bonded to the frame of the car and to every other shoe. The shoes ride adjacent to the flange. These shoes are set up at the initial terminal on each run at 40 lb, and are readjusted en route if they are tested and found to be below 20 lb. In addition to periodically making mechanical inspections and tests of pressure on the shoes, we periodically use a photoelectric recorder to measure track circuit currents at various test points on the railroad."

J. F. Yerger, Lehigh Valley, reported that his road has two lightweight self-propelled cars which are operated as single-unit passenger trains on a branch from Hazleton, Pa., to Penn Haven, 15 miles, and on the main line from Penn Haven to Lehighton, 11 miles. Mr. Yerger said that: "On the Hazleton branch the traffic is light, especially Friday to Monday, and the rail condition is bad due to dust and dirt from mining operations. Although this branch is signaled, lightweight movements in this area, because of these conditions, are protected by manual block.

"My opinion has always been that the equipment like the Budd cars, Talgo, Train X and others now on drawing boards, cannot be protected by any system that depends on an electrical contact between the wheels and the rails. Therefore, we have experimented with a scheme to detect the presence of a car or train magnetically (check in and check out). Such a system utilizes in part the present intermittent inductive train stop equipment. The equipment for protecting the 11 miles between Penn Haven and Lehighton is on order. Because there are no switches, passing sidings or highway crossings in this area, we can equip it without too great cost."

CTC on an Entire Railroad

. . . Discussed by Panel

W. G. Salmonson, assistant chief engineer, signals, Pennsylvania, moderator of the panel, said "It is entirely possible that the control systems of the future will be so arranged that a central room at operating headquarters will house one or more control machines close enough together to make it possible for a man at the higher levels of the operating railroad staff to get a complete picture at any moment as to what is going on on the whole railroad. Ultimately, the proper combination of speed

(Continued on page 42)

TARPAULIN is spread lengthwise on three-wheeled trolleys on tracks mounted on side sills of car. It is supported by movable frame bows which span the width. With the cover installed, the full length of the car is not available for loading.

TO SIMPLIFY LOADING AND PROTECT LADING . . .

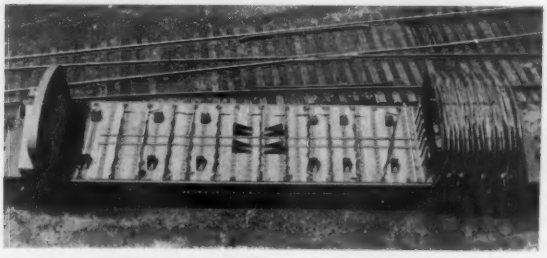
Built-in Tarpaulin Covers Car

A covered flat car that can be loaded and unloaded with either overhead cranes or fork-lift trucks has been placed in experimental service by the Bessemer & Lake Erie. This car was designed to give complete weather protection to shipments of steel and other products without expensive wrapping and packaging. Built-in blocking, bracing and tie-down apparatus are provided.

The bellows-fold cover can be opened or closed in less than one minute. It is operated by a cable and drum mechanism which is turned by a hand crank at one end of the car. There is also a locking mechanism which secures the cover in the closed position. The tarpaulin material used for the cover is nylon impregnated with neoprene.

Material being loaded on the car is placed against the fixed bulkheads at the ends. Supporting bars, end and side chocks, and load binders can be quickly secured around the load. Wedges are driven between the chocks and the lading to take up any remaining space.

The tarpaulin cover is supported by a frame of bows which extend across the car and are carried on three-wheeled trolleys that run on tracks along the side sills of the car. These bows are connected with tarpaulin risers which elevate the cover between the bows as the car is uncovered and prevent dragging the tarpaulin over the lading.



COVER OPENED, the bulkheads and load-securing equipment are shown. The holes in the floor channels permit adjustment of the side and end chocks to accommodate a wide variation in lading sizes.

The bottom edge of the tarpaulin along each side is guided and secured with a spring loaded guide cable running its full length. An eye, ring or harness snap is attached to each bow to prevent oscillation of this cable while the car is moving. All the gaps and seams in the cover were first cemented and then stitched together. Where scuffing takes place at the tarpaulin risers and at the permanent end plate, neoprene strips were cemented on to prevent weakning.

The bow nearest the operating mechanism is the only one attached to the power cable and it is secured on both sides of the car. When the cover is being closed, this first bow is pulled by the power cable and succeeding bows are pulled to their proper position by the tarpaulin material as it is stretched into position. When uncovering the car, the first bow moves in against the second and these two against the third. This continues until the entire cover is collapsed and the lading is exposed.

Weatherproofing in the closed position is achieved by designs that seal the two ends and the lower edges of the cover. At the end where the tarpaulin is fixed, it is pulled tight over a weather bulkhead and is lashed with ropes to a bar welded on this bulkhead. These lashings are covered with a bolted weather plate to prevent driving rain from entering around the edge of the cover. The cover moves in against the end where the operating mechanism is located, and here the first movable bow is held in a weather hood. This hood is sealed with tarpaulin material flaps and has a water conducting gutter running around the inside.

The side sill openings are protected by plates edged with the tarpaulin material along the lower edges. There is also a rolled angle running along the top edge of the side sill on each side. All the holes in the universal loading channels in the floor are sealed by ⅛-in. plate welded on the bottom.

HERE ARE THE FACTS!

"The 14-inch head radius offers a larger area of wheel contact and should reduce the plastic flow of metal in the head through lessened unit pressures. Since the loading will be concentrated toward the center of the head, the less intense pressure toward the gauge corner should result in a cold rolling effect which should be of material benefit on this portion of the railhead when the rail has worn to the point where contact with the wheel is made across the entire width of the railhead, thereby reducing the occurrence of compound fissures. The narrower head width and the increased depth of the head will also tend to minimize the stresses in the lower fillets incident to eccentric loading and should substantially reduce the rate of rail failures due to fillet cracks."

T. A. Blair,
Chief Engineer, Santa Fe Railroad

- **GREATER STIFFNESS**
- **MORE CAPACITY FOR HEAD WEAR**
- **REDUCED SHELLING**

These are the fundamental characteristics of CF&I's new rail sections, which influenced Western Pacific and Santa Fe to adopt them as standard.

Frank R. Woolford, chief engineer of the WP, explains that the 119 lb. section has been adopted as standard "on our main line except in areas of unstable roadbed or heavy traffic, where we have adopted the 136 lb. rail for its greater beam strength and longer life". He feels that the revised head contours of the new sections "will greatly reduce flowing of the head and shelling of the rail".

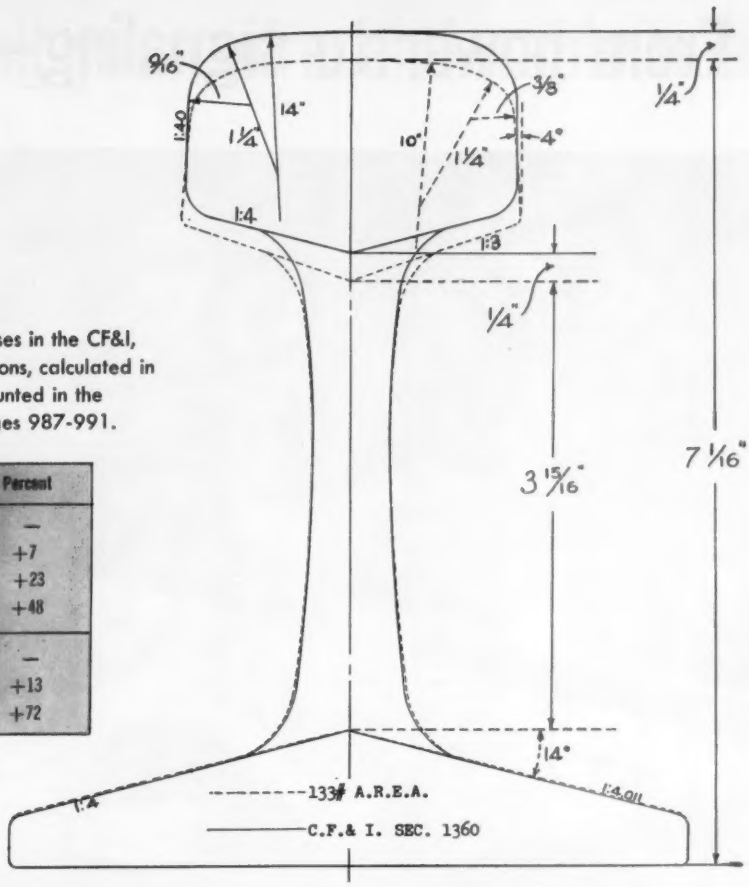
F. R. Woolford, Chief Engineer,
Western Pacific Railroad,
Railway Age, September 5

There are also points of similarity to existing RE sections. The CF&I 119 lb. section, for instance, is identical with the 115 lb. RE section from the underside of the head down to the base. The result is that all 115 lb. RE track fittings will fit the new 119 lb. section. Likewise, the new 136 lb. section is the same from the head down as the 132 lb. RE section. This means, of course, that Rail Joint Company 100 per cent headfree joint bars for the 115 lb. and 132 lb. RE sections will fit the new CF&I sections.

Railway Track and Structures,
September

136 lb. CF&I Rail *Photo courtesy of Santa Fe Railroad*

NOTE NO EVIDENCE OF INITIAL WHEEL LOAD ON GAUGE CORNER.



Comparative maximum web stresses in the CF&I, A.R.E.A., and Head Free rail sections, calculated in accordance with the method recounted in the A.R.E.A. Proceedings Vol. 48, pages 987-991.

Rail Section	psi	Percent
136 CF&I	10,800	—
133 RE	11,600	+7
132 RE	13,300	+23
132 HF	16,000	+48
119 CF&I	13,400	—
115 RE	15,200	+13
113 HF	23,100	+72

1. 10% greater beam strength afforded by CF&I 136 lb. rail.

2. ¼" lower depth of fish of 133 lb. rail reduces joint strength 5% compared with joints for 136 CF&I and 132 RE.

3. Fish of 133 RE, head and base slope, necessitates special joint sections comparable to no other RE standard.

4. Performance records indicate the 10" radius reduces area of wheel contact, accelerating both plastic flow of metal in rail head and end batter.

PROPERTIES OF SECTIONS

ITEM	SECTIONS 133 RE	SECTIONS 1360	COMPARISON OF 133 RE to 1360	
AREA: HEAD	4.74□"	4.86□"	+2.5%	
WEB	3.47□"	3.62□"	+4.3%	
BASE	4.87□"	4.87□"	Same	
TOTAL	13.08□"	13.35□"	+2.1%	
Weight per yard	133.4	136.2	+2.1%	
G.T./ mile—single track*	209.0	213.7	+2.2%	
N.T./ mile—single track*	234.1	239.4	+2.3%	
Moment of Inertia (I)	86.0	94.9	+8.9"⁴	+10.3%
Section Modulus, Head	22.0	23.9	+1.9"³	+8.6%
Section Modulus, Base	27.0	28.3	+1.3"³	+4.8%
Ratio, "I" to Area	6.57	7.1	+8.1%	
Ratio, Sec. Mod., Head-Area	1.68	1.8	+7.1%	
Distance, Base to N.A.	3.2"	3.347"	+0.147"	

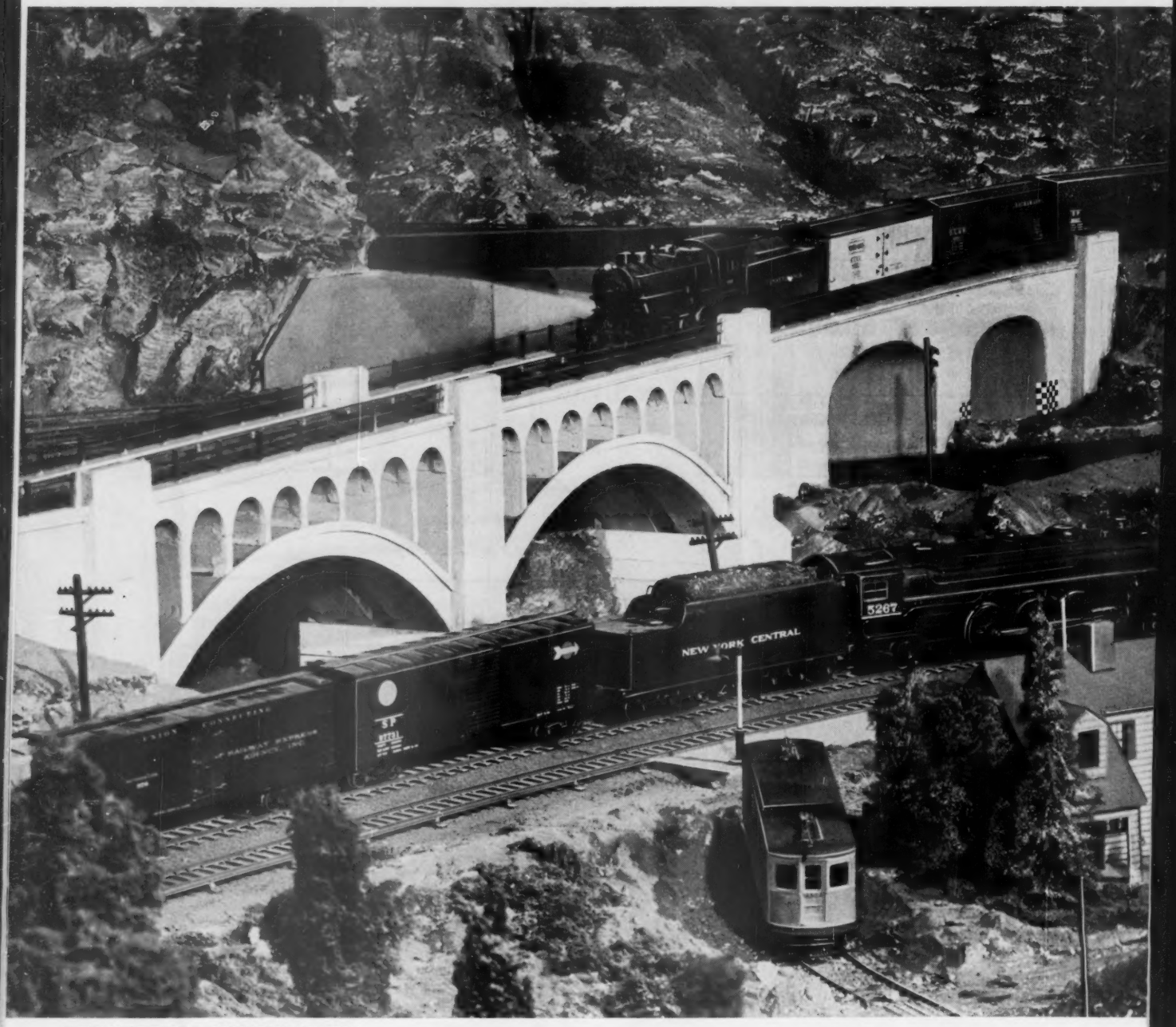
*Weight per mile based on nominal weight per yard.

THE COLORADO FUEL AND IRON CORPORATION
DENVER, COLORADO

CF&I

3630

From power to signaling—Anaconda can



PICTURE COURTESY OF N. Y. SOCIETY OF MODEL ENGINEERS

Anaconda wire and cable for railroad use

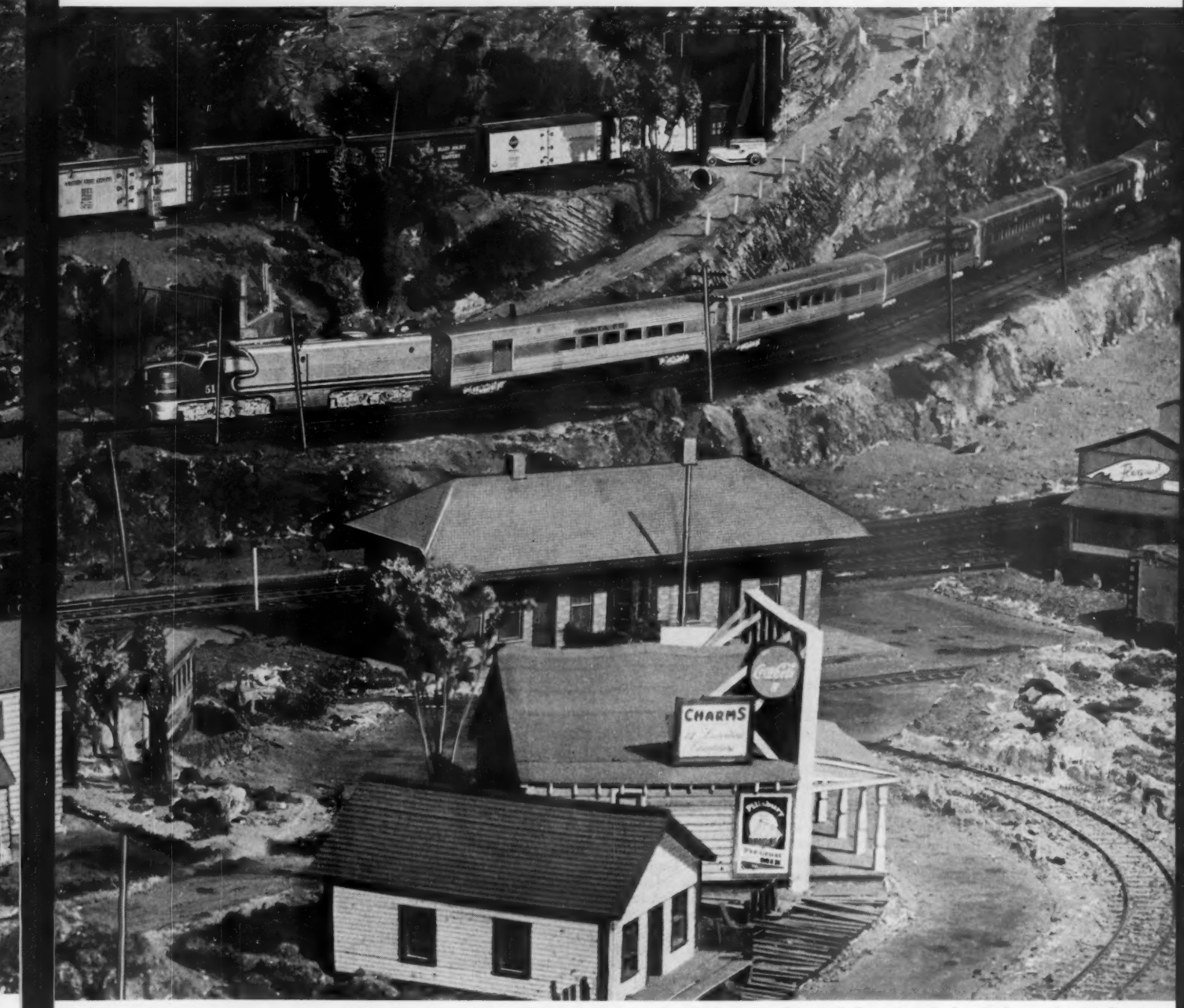
Locomotive wiring cable
Car wire and cable
Signal wire and cable
Annunciator wire
Switchboard wire
Appliance wire for hot locations
Telephone wire
Telephone cable, 6-404 pair
Radio hook-up wire
Track wire and cable
Train control wire
Control cable

1000-volt control cable
Traffic control cable
Flexible cords
Motor lead wire
Rubber power cable
High-voltage rubber cable
Paper-lead power cable
Varnished-cambric power cable
Battery cable
Rail bond cable
Aerial cable
Parkway cable

Nonmetallic-sheathed underground cable
Interlocked-armor cable
Submarine cable
Portable cables
Potheads, capnut type
Potheads, soldersealed type
Jointing kits
Bare copper wire and cable
Bare aluminum wire and cable
Copperweld-copper bare cable
ACSR

Trolley wire
Weatherproof wire and cable
Covered line wire
Rubber building wire
Plastic building wire
Magnet wire, enamel—and fibrous-insulated
Square and rectangular magnet wire
Cathodic protection cable
Service cables
Service drop cables

help you with all your wire and cable needs!



MODEL RAILROAD serves to illustrate the wide range of wires and cables made by Anaconda for all phases of railroading.

For more than a quarter of a century, Anaconda has been making wire and cable for *every* important railroad use—from main line to roundhouse.

From this experience Anaconda offers a rare combination of metallurgical, cable and manufacturing know-how. Over 400 Distributors—backed by seven fabricating mills strategically located across the country—assure you of the finest wire and cable available, where and when you want it.

The listing on the left shows the many Anaconda wires and cables available for railroad applications. Why not clip this advertisement and keep it for handy reference?

For more information, call the Man from Anaconda. Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York. 55287

ANACONDA®

HOW SIGNALING IS IMPROVING

(Continued from page 36)
control, automatic train identification, and supervisory traffic control may result in a complete automatic railroad with unattended robot motive power."

A time saving of an average of one minute for each mile for every freight train by the installation of CTC, on single track, was brought out by W. N. Hartman, general superintendent signals and communications, C&O, who said that "Our total traffic control for the past 27-year period comprises 35 installations, 20 of which are dispatcher controlled and 15 operator controlled. The approximate capital expenditures have been $16 million.

"We have eliminated 274 operator positions and four dispatcher positions at an approximate annual operating cost reduction of $1,300,000, equivalent to a return of about 8% on capital expenditure for labor savings alone. This saving, together with an approximate saving of one minute per freight train-mile which we conservatively estimate to be the average saving in freight train operation throughout the entire single-track traffic controlled mileage, represents a very substantial gross saving."

Seventy per cent of the meets are running meets in which neither train stops, explained G. K. Thomas, signal engineer, system, AT&SF. This is accomplished on heavy traffic single-track CTC territory. Sidings are twice as long as the longest train and are signaled similar to main tracks. The turnouts are No. 20 with 30-ft points so trains can enter or leave sidings at 40 mph, and signaling is arranged to direct trains at such speeds.

CTC no wind can harm—In conventional CTC if line wires between the control office and field locations are torn down by winds or ice, the dispatcher controlled signals remain at "Stop." However, as explained by J. R. DePriest, superintendent communications and signals, Seaboard, when such line circuit failures occur on his railroad the CTC system is automatically changed to automatic block, in which the controlled signals can be cleared automatically by the approach of a train if the route ahead is safe for its passage. At the end of each siding a switch key circuit controller is used in emergencies to locally control the power-operated switch so trains can enter the siding when a stop signal is encountered.

CTC on an entire railroad controlled from one point, and a new type machine to make this practicable, were discussed by A. L. Essman, chief signal engineer, system, Burlington. His road has 1,500 track miles of CTC, mostly on single track. "This system has proved so successful," he said, "that our attention is now being directed to territories on multiple-track lines in which there are numerous interlockings. When engineering a project of this nature there is indicated a necessity for a different type of control machine than that which has been previously used on single-track installation .

"We are utilizing the principle of control embodied in the entrance-exit type of interlocking, on a small console. A separate enlarged illuminated track diagram will permit all indications to be displayed therein. This is necessary to permit one man to control a larger number of functions, such as would be encountered when consolidating a large number of interlockings in CTC projects. The growth of CTC was first started by having small sections scattered over the division, which were later consolidated at division headquarters, and now some projects are being designed to take in more than one operating division. I feel that the time will come when whole railroad systems can be controlled from one central point."

(Continued from page 16)
spark our expansion in a new atomic age. It would likewise speed the revolution in domestic transportation."

The **Great Northern** in 1956 will acquire 20 diesel units from Electro-Motive, according to an improvement program approved by the directors October 21.

Financial

TP&W Ends Fight Against IT Sale to 11-Road Group

The Toledo, Peoria & Western has withdrawn its opposition to sale of the Illinois Terminal to the Illinois-Missouri Terminal, a company formed by a buying group of 11 roads.

TP&W has so advised the Interstate Commerce Commission which has before it a proposed report recommending that the proposed sale be approved (*Railway Age*, September 19, page 62).

Chesapeake & Ohio.—*Trackage Rights.*—The ICC has authorized this road to acquire trackage rights over lines of the New York Central, including the portion of the Detroit River tunnel within the United States, from Delray Interlocking to the international boundary. The C&O, under Canadian regulation, would continue over the Central's lines to Pelton Interlocking, 12 miles. The commission also approved abandonment by the C&O of its car ferry across the Detroit river at Detroit, finding the new trackage rights would provide adequate substitute service for the ferry (*Railway Age*, July 12, 1954, page 66).

Detroit & Canada Tunnel.—*Stock Issue.*—The ICC has authorized this road to issue 793,546 shares of $5-par common stock to be exchanged on a two-for-one basis for 396,773 shares of $10-par common stock outstanding.

Fairport, Painesville & Eastern.—*Stock Issue.*—This road has been authorized by the ICC to issue 75,000 shares of $20-par common stock, of which 47,500 shares would be exchanged on a five-for-one basis for 9,500 shares of $100-par common outstanding; 23,750 would be distributed as a dividend payment on the basis of one share for each two shares of new stock outstanding; and 3,750 shares would be sold to selected employees and officers at not less than par.

Federal Barge Lines.—*Trackage Rights.*—The ICC has authorized this company to acquire trackage rights over about 2 miles of the Birmingham Southern from Ensley Junction, Ala., to Birmingham, and three segments of the BS connecting with the Louisville & Nashville, St. Louis-San Francisco and the Southern, plus yard tracks.

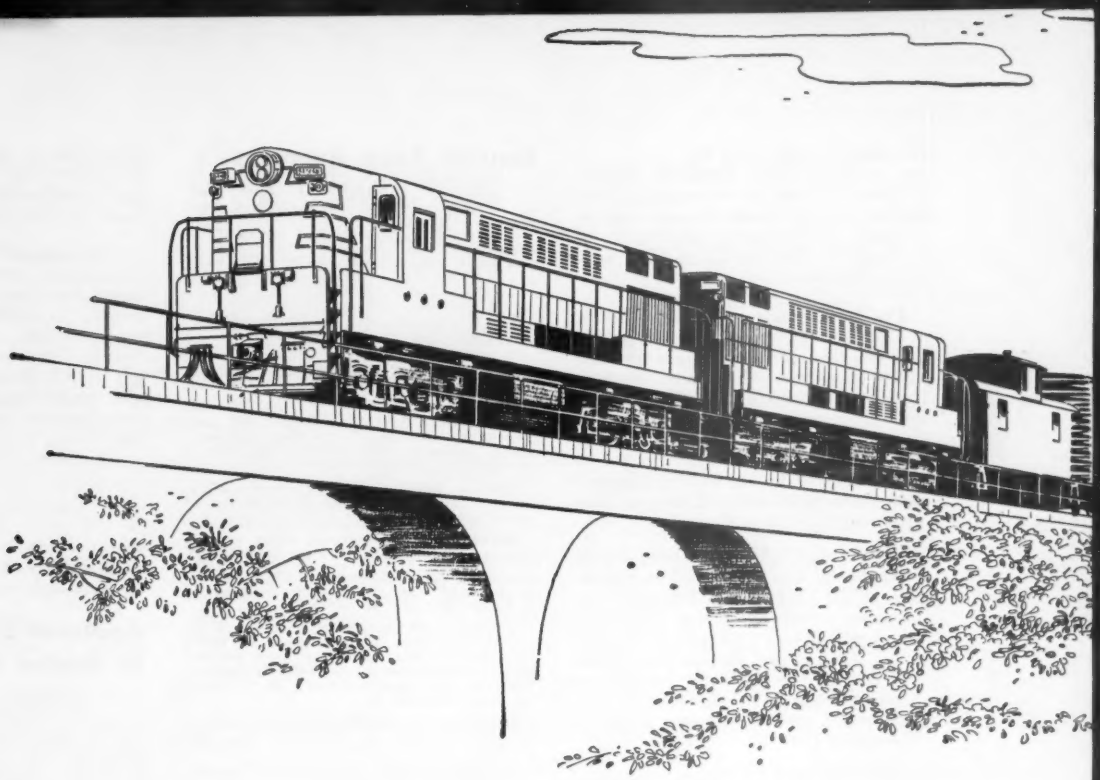
Illinois Central.—*Increased Dividend.*—With declaration of an 87½-cents quarterly dividend on the common stock, payable December 12 to stockholders of record November 9, this road has returned to the dividend rate which prevailed before the depression of the 1930's, when the annual rate on the common was $7 a share. The stock was split two-for-
(*Continued on page 46*)

LIGHTING by "Safety..."

on
the
new
ultra-modern
LIGHTWEIGHT
TRAINS!

A COMPLETELY NEW CONCEPT OF ILLUMINATION FOR PASSENGER CARS...

THE SAFETY CAR HEATING AND LIGHTING COMPANY INC
Lighting Division
P.O. BOX 70 MILFORD, CONN



"No Perceptible Wear"

Reports on the solid aluminum main and connecting rod bearings in the Opposed-Piston Diesels in Fairbanks-Morse locomotives add up to a remarkable degree of trouble-free, long-lasting performance.

After five, six, seven years of performance in all kinds of service the reports read:

"No perceptible wear"
"Bearings re-installed"
"Bearings checked to new dimensions"

The rapid heat dissipation and elimination of hot spots obtained from solid aluminum coupled with the reduced bearing load inherent in the design of this engine are responsible for this remarkable service life.

This design feature is one of the many which make Fairbanks-Morse locomotives the soundest investment for any railroad. Fairbanks, Morse & Co., Chicago 5, Illinois.

FAIRBANKS-MORSE

a name worth remembering when you want the best

DIESEL LOCOMOTIVES AND ENGINES • RAIL CARS AND RAILROAD EQUIPMENT • ELECTRICAL MACHINERY
PUMPS • SCALES • WATER SERVICE EQUIPMENT • HAMMER MILLS • MAGNETOS

(*Continued from page 42*)
one in June 1954. President Wayne A. Johnston said reinstatement of the earlier rate of dividend payments is a result of "judicious application of earnings to debt reduction and property improvements."

Pacific Electric.—*Trackage Rights.*—The ICC has approved arrangements whereby this road will acquire trackage rights over about 37 miles of Southern Pacific lines between Los Nietos, Cal., and Dyer and Stanton, and between Tustin Junction and Marlboro. The PE will thus continue freight service to points affected by commission-approved abandonment of some of its own lines in Orange County, Cal.

Rutland.—*Subsidiary Incorporated.*—This road has announced incorporation of the Ogdensburg Terminal Corporation, a wholly owned subsidiary, which will promote the port of Ogdensburg, N.Y., on the St. Lawrence River and operate the Rutland's Ogdensburg grain elevator. The elevator is being modernized and will resume operation November 1.

Sacramento Northern.—*Trackage Rights.*—The ICC has approved arrangements whereby this road will acquire trackage rights between Sacramento, Cal., and Pittsburg—over 43 miles of Western Pacific line between Sacramento and Stockton, and over 33 miles of Santa Fe line between Stockton and Pittsburg. SN will thus continue providing the overhead freight service affected by commission-approved abandonment of its own line between Montezuma, Cal., and West Pittsburg.

Western Maryland.—*Arrearages Elimination Plan.*—This road has applied to the ICC for approval of its plan to pay off the $19,250,070 of dividend arrearages on its first preferred stock. (*Railway Age*, October 17, page 16.)

White City Terminal.—*Stock Issue.*—The ICC has approved this road's application to issue 10,000 shares of no-par common stock to be delivered in exchange for rail facilities and properties (*Railway Age*, September 12, page 62).

Authorizations

SOUTHERN PACIFIC.—To assume liability for $9,390,000 of equipment trust certificates to finance in part purchase of 37 diesel-electric units and 965 box cars at a total estimated cost of $12,590,753 (*Railway Age*, September 12, page 66). The securities, dated September 1, are to mature in 15 annual installments of $626,000 each, beginning September 1, 1956. Division 4 approved sale of the securities at an interest rate of 3⅛% for 99.1013—the bid of Halsey Stuart & Co. and 10 associates—which will make the annual cost of the proceeds to the road approximately 3.29%. The certificates were reoffered to the public at prices yielding from 2.9 to 3.25%, according to maturity.

UNION.—To issue an unsecured promissory note for $3,000,000 to the parent United States Steel Corporation as evidence of a loan of that amount to be used with other funds to retire Monongahela Southern first mortgage, 5% bonds in the principal amount of $3,000,000, and $2,500,000 of outstanding 6% general mortgage bonds.

Security Price Averages

	Oct. 25	Prev. Week	Last Year
Average price of 20 representative railway stocks	91.65	90.74	71.24
Average price of 20 representative railway bonds	97.78	97.77	96.35

Dividends Declared

ATLANTIC COAST LINE.—50¢, quarterly, payable December 12 to holders of record November 8.

CLEVELAND & PITTSBURGH.—4% special guaranteed, 50¢, quarterly; 7% regular guaranteed, 87½¢, quarterly; both payable December 1 to holders of record November 10.

ERIE & PITTSBURGH.—guaranteed, 87½¢, quarterly, payable December 12 to holders of record November 30.

GREAT NORTHERN.—common, 62½¢, payable December 19 to holders of record November 25.

ILLINOIS CENTRAL.—common, 87½¢, quarterly, increased from 75¢, payable December 12 to holders of record November 9.

KANSAS CITY SOUTHERN.—common, $1.25, payable December 31 to holders of record November 30. This includes an extra dividend of 50¢ in addition to the quarterly 75¢ dividend. Preferred, 50¢, payable January 16 to holders of record December 30.

LOUISVILLE & NASHVILLE.—$1.25, quarterly, payable December 12 to holders of record November 1.

ONTARIO & QUEBEC.—$3, semiannual, payable in Canadian funds December 1 to holders of record November 1.

PHILADELPHIA, GERMANTOWN & NORRISTOWN.—$1.50, quarterly, payable December 5 to holders of record November 18.

PITTSBURGH, YOUNGSTOWN & ASHTABULA.—7% preferred, $1.75, quarterly, payable December 1 to holders of record November 18.

WEST JERSEY & SOUTH SHORE.—special guaranteed, $1.50, semiannual, payable December 1 to holders of record November 15.

New Facilities

Chesapeake & Ohio.—The board of directors has authorized expenditures for the following projects (costs shown in parentheses): An automatic merchandise manifest freight yard at Russell, Ky. ($5,500,000); yard improvements at Clifton Forge, Va., Gladstone and Newport News ($2,000,000); centralized traffic control between Pelton and Blenheim in Ontario, Canada ($840,000), and between McDougle, W. Va., and Chelyan ($1,200,000). The board also confirmed construction of a $3,200,000 coal dumping facility at Newport News which had previously been authorized by the executive committee.

Nashville, Chattanooga & St. Louis.—Directors have approved a $5,870,000 modernization and expansion of the Hill Park yard in Atlanta. The cost will be shared by the Louisville & Nashville, which will become a joint user of the yard. The expanded facility will have a daily capacity of 2,500 cars.

Northern Pacific.—A new freight and passenger depot, to cost $42,000, is being built at Gardiner, Mont. Completion is scheduled for late this fall. A 14 by 100 ft concrete platform with an umbrella shed roof near the depot will accommodate passengers transferring from NP Transport buses to Yellowstone Park buses.

Reading.—Planned roadway improvements costing $1,935,000 were announced last week by President Joseph A. Fisher. Included will be reconstruction of the double-track Shepps Dam bridge over the Schuylkill river at Reading, Pa. ($1,525,000), and establishment of a new connection between the Reading Belt-Lebanon Valley branches and the Blandon cutoff, west of Reading ($409,500).

Railway Officers

Appleton Elected Chairman Of Boston & Maine Board

At a meeting of the board of directors of the Boston & Maine October 20, Oliver D. Appleton was elected chairman of the board. Earlier that day Mr. Appleton had been elected a member of the board at a special stockholders' meeting (*Railway Age*, October 17, page 16). Mr. Appleton is a partner in the investment banking firm of Cyrus J. Lawrence & Sons.

CHICAGO & NORTH WESTERN.—**Fred O. Steadry,** commerce counsel, has been appointed general solicitor, and **Charles H. O'Hearn,** assistant general auditor, has become general auditor. **Edward Warden,** assistant general solicitor, has been named assistant general counsel, and **Bernard Firestone,** auditor of capital expenditures, has been promoted to assistant general auditor. All will have headquarters at Chicago.

John A. Wood, general auditor at Chicago, has been appointed comptroller there, succeeding **H. D. Barnes,** retired (*Railway Age*, July 25, page 66).

John A. Wood

Mr. Wood joined the valuation department of the C&NW in 1918. He subsequently served as instrumentman,

assistant engineer, cost engineer, auditor of capital expenditures, and assistant comptroller. In 1952 he was named general auditor.

FRISCO.—R. A. Rorie, Jr. has been named assistant superintendent, Rolla subdivision at Newburg, Mo.

B. H. Crosland, assistant chief engineer, has been advanced to chief engineer, maintenance of way at Springfield, Mo. **A. L. Fisher,** division engineer at Enid, Okla., and **H. F. Busch,** division engineer at Springfield, Mo., have retired after 43 and 48 years of service, respectively. **O. E. Fort** has been named division engineer, Eastern division, North/South at Springfield, and **G. E. Warfel** has become division engineer, Western division at Enid. **J. H. Brown** has been appointed division engineer at Fort Worth, Tex.

Richard F. Read has been appointed assistant director of public relations at St. Louis.

H. E. Rook, assistant general superintendent transportation, has been named director of terminals at Springfield—a new position—effective September 1. In this position Mr. Rook heads a special committee set up to study and analyze present practices used in switching and movement of cars over the road. **W. B. McCaffrey,** terminal trainmaster at Birmingham, Ala., has been named assistant director of terminals and will serve as chairman of the committee, at Springfield. **T. S. Sullivan,** trainmaster, Southwestern division at Tulsa, Okla., has been transferred to the Eastern division at Springfield.

I. H. Albers, clerk in the paymaster's office, has been named paymaster at St. Louis, succeeding **Clarence H. Sametz.**

Harlan J. Key, general agent at Memphis, Tenn., has been promoted to traffic manager of the Pittsburgh office, effective November 1, succeeding **Howard H. Knuth,** whose appointment as freight traffic manager at St. Louis was noted in *Railway Age*, October 17, page 46. **Donald H. Andreas** has been transferred from Omaha, Neb., to replace Mr. Key at Memphis.

Harlan J. Key

MONON.—M. P. Anderson, assistant chief engineer at Lafayette, Ind., who has been appointed chief engineer at that point, succeeding L. F. Racine, retired.

Effective November 1, **R. A. Albright,** general agent at Los Angeles, has been promoted to traffic manager there, and has been succeeded by **D. E. Towers,** commercial agent. **Michael Krug, Jr.,** traffic representative at Chicago, has been named general agent at Omaha, Neb.

T. H. Banister, vice-president—traffic, has been promoted to vice-president—executive department, and **J. E. Gilliland,** assistant vice-president—traffic, has become vice-president—traffic, both at St. Louis. The appointments, effective November 1, also apply to the St. Louis-San Francisco & Texas Railway, and the Frisco Transportation Company, Frisco subsidiaries.

MISSISSIPPI CENTRAL.—T. P. Ramsey and **J. S. Montgomery,** assistant general freight agents (rates) have been named general freight agents (rates), with headquarters as before at Hattiesburg, Miss. **Riley E. Davis,** assistant general freight agent (solicitation), has been appointed general freight agent (sales and service) at that point. **J. J. Ray,** commercial agent at New Orleans, has been named general agent there.

NORFOLK & WESTERN.—A. J. Graham, trainmaster on the Norfolk division, has been appointed diesel supervisor, a new position. **John C. Irvin, Jr.,** assistant trainmaster, succeeds Mr. Graham as trainmaster.

PENNSYLVANIA.—The new plan of organization of this road's managerial setup, effective November 1 (*Railway Age*, October 10, page 46), will result in establishment of nine regions, each headed by a regional manager. The Pittsburgh and Chicago regional managers will also have the title of vice-president.

The staff of the New York region, headed by **P. M. Roeper,** will include:

N. L. Fl ckenstine, asst. regional manager;
R. E. Blosser, supt.—transportation;
T. T. Tompkins, asst. supt. transportation—train movement;
C. W. Weaver, supervisor— transportation engineering;
J. W. Rathvon, freight train master (New York);
C. R. Boyd, passenger train master (New York);
M. M. Quinn, road foreman of engines—freight;
F. E. Trogler, road foreman of engines—passenger;
H. S. Unangst, boatmaster (Jersey City);
G. S. Webb, supt.—equipment;
A. P. C. Schlegal, supervisor—car equipment;
W. P. Bickley, supervisor—methods and cost control;
R. M. Holcombe, master mechanic (Newark);
R. C. Johnston, master mechanic (New York);
C. E. Gipe, regional engineer;
H. J. McNally, asst. regional engineer;
F. D. Day, engineer—structures;
O. M. Wiland, engineer—communications and signals;
W. E. Hiltebeitel, supervisor—methods and cost control;
R. H. Meintel, supervisor—M.W. material and equipment;
R. J. Wood, freight traffic manager;
W. S. Merrick, mgr.—freight sales and services;
W. E. Pimm, supervisor—freight service;
L. C. Neff, supt.—freight stations;
H. H. Hill, Supervisor—freight handling;
L. V. Hantke, supervisor—clerical operations;
L. O. Holt, district sales manager (Trenton);
W. M. Anthony, district sales manager (Newark);
J. A. Prince, district sales manager (New York);
J. B. Dorrance, Jr., passenger manager;
W. G. S. Savage, Jr., asst. passenger manager;
W. T. Phillips, asst. to passenger manager;
H. Flait, passenger station manager (New York);
A. J. Johnson, passenger station manager (Newark);
I. W. MacMullin, district passenger manager (New York);
E. S. Chaffinch, district passenger manager (Newark);
C. E. Sheirtcliff, supervisor—port transportation;
R. B. Merrick, district passenger manager (New Haven);
H. G. Allyn, Jr., district passenger manager (Boston);
S. J. Wilson, Jr., superintendent—personnel;
N. J. Lynch, supervisor—labor relations;
H. B. Brevoort, supervisor—personnel;
V. B. Sieme, Jr., mgr.—real estate
Dr. R. S. Ayerle, regional medical officer;
Eug ne Dubois, mgr.—public relations;
F. J. Hasson, mgr.—industrial development
G. B. Jansen, regional claim agent;
P. R. Byers, budget supervisor;
F. J. Holslag, chief of police.

G. C. Vaughan will head the Philadelphia region, the staff of which will include:

H. D. Kruggel, asst. regional manager;
J. F. Piper, Jr. supt.—transportation
G. J. McCloskey, asst. supt. transportation—train movement;
E. R. Pilot, asst. supt. transportation—passenger (Philadelphia);
D. C. Stump, supervisor—transportation engineering;
W. N. Price, freight train master (Harrisburg);
R. T. Bostley, freight train master (Philadelphia);
J. E. Buckwalter, passenger train master (Harrisburg);
D. E. Schlegel, road foreman of engines (Harrisburg);
B. R. Carson, road foreman of engines (Philadelphia);
H. H. Haupt, supt.—equipment;
P. B. Cole, supervisor—car equipment;
C. R. Johnson, supervisor—methods and cost control;
T. L. Preun, supervisor—diesel equipment;
J. C. White, master mechanic (Philadelphia);
L. A. Dixon, master mechanic (Harrisburg);
L. W. Green, regional engineer;
A. H. Hillman, engineer-structures;
W. G. Trost, engineer—communications and signals;
E. J. Si rleja, supervisor—methods and cost control;
J. H. Ault, supervisor—M.W. material and equipment;
E. E. Zacharias, Jr., district engineer (Philadelphia);
R. A. Westergren, district engineer (Harrisburg);
C. R. Burr, freight traffic manager;
W. P. Veit, asst. freight traffic manager;
R. W. Le dy, mgr.—freight sales and services;
V. C. Kline, asst. mgr.—freight sales and services;
L. A. Whalen, asst. to mgr.—freight sales and services;
E. L. Kaufman, supervisor—freight service;
J. C. Stewart, supt.—freight stations;
C. A. Thomas, supt.—freight handling;
J. H. Dietrich, supervisor—clerical operations;
W. S. Wilson, Jr., district sales manager (Philadelphia);
N. B. Fagan, district sales manager (Camden);
J. R. Thomas, district sales manager (Harrisburg);
G. A. Harnischfeger, district sales manager (Reading);
J. N. Piersol, district sales manager (Bethlehem-Easton);
R. H. Dowie, district sales manager (Hagerstown);
F. M. Ware, passenger manager;
M. H. Lingenfelter, passenger station manager (Philadelphia);
M. B. Winn, district passenger manager (Philadelphia);

A. C. Sigelen, district passenger manager (Harrisburg);
H. W. Manning, superintendent—personnel;
J. G. Fink, supervisor—labor relations;
G. C. Felton, supervisor—personnel;
E. H. Schwer, mgr.—real estate;
Dr. J. M. Brewster, regional medical officer;
H. L. Wiand, mgr.—public relations;
A. J. Vonk, mgr.—industrial development;
C. G. Overlander, asst. mgr.—industrial development;
J. R. Wilson, regional claim agent;
F. V. Hebron, budget supervisor.
L. E. Pearce, chief of police.

SOUTHERN.—Leo V. Crane, general freight traffic manager at Washington, D.C., has been appointed assistant vice-president there, succeeding **Ralph J. Brown,** who retired October 1 after 52 years of service with that road. **Joseph Marks,** freight traffic manager at Washington, succeeds Mr. Crane as general freight traffic manager. **Frank H. Candler,** assistant general freight agent at Atlanta, Ga., has been transferred to Cincinnati, Ohio. **Ray M. Van Hook,** commercial agent at Chicago, has been appointed assistant to freight traffic manager at Washington.

Mr. Crane was born January 21, 1890, at Cincinnati, where he entered the service of the Southern as a clerk in September 1906. After serving in various clerical capacities, he was successively, commerce agent, assistant to vice-president, assistant freight traffic manager and freight traffic manager, becoming general freight traffic manager in May 1953.

Leo V. Crane

Joseph Marks

Mr. Marks was born at Hoosick Falls, N.Y., June 17, 1892, and received his higher education at George Washington University and National University in Washington, D.C. He joined the Southern as a messenger in October 1907, later serving in various clerical positions. He was with the Transportation Division of the United States Treasury Department in Paris, France, and in 1919 was transferred to the Washington office of that division. Returning to the Southern in March 1920 as a rate clerk in the commerce department at Washington, Mr. Marks subsequently served as chief clerk, special commerce clerk, commerce agent, and chief commerce agent. He was promoted to assistant freight traffic manager in January 1941 and became freight traffic manager in May 1953.

Armpstred C. Henderson, general freight agent, has been promoted to assistant freight traffic manager, with headquarters remaining at Atlanta. **Richard W. Ellerman,** general freight agent at Cincinnati, succeeds Mr. Henderson as general freight agent at Atlanta.

Samuel R. Goodman

Samuel R. Goodman, assistant to vice-president, has been promoted to freight traffic manager, with headquarters remaining at Washington, D.C. **William C. Richardson,** assistant to freight traffic manager at Washington, succeeds Mr. Goodman as assistant to vice-president. **H. Byron Barnes,** officers' assistant, has been promoted to assistant to freight traffic manager, with headquarters remaining at Washington.

Mr. Goodman was born December 9, 1903, and attended T. C. Williams Law School at Richmond, Va. He entered Southern service in March 1920 as a clerk at Richmond, subsequently advancing to chief rate clerk in the general freight office there. After serving in the commerce department at Washington as chief clerk, commerce agent and assistant to freight traffic manager, he became assistant to vice-president in November 1942. Mr. Goodman has served in the latter capacity since that time, with the exception of the period March to October 1949 when he was a member, National Committee, Railway Express Agency, at New York.

TEXAS & NEW ORLEANS.—As reported in *Railway Age* October 17, page 46, H. H. Gray (above), has been named passenger traffic—public relations manager at Houston.

Ross R. Martin, trainmaster at Sheffield, Ala., has been promoted to superintendent there, succeeding **William F. Cooper,** who retires November 1 after more than 51 years of service.

William C. Richardson

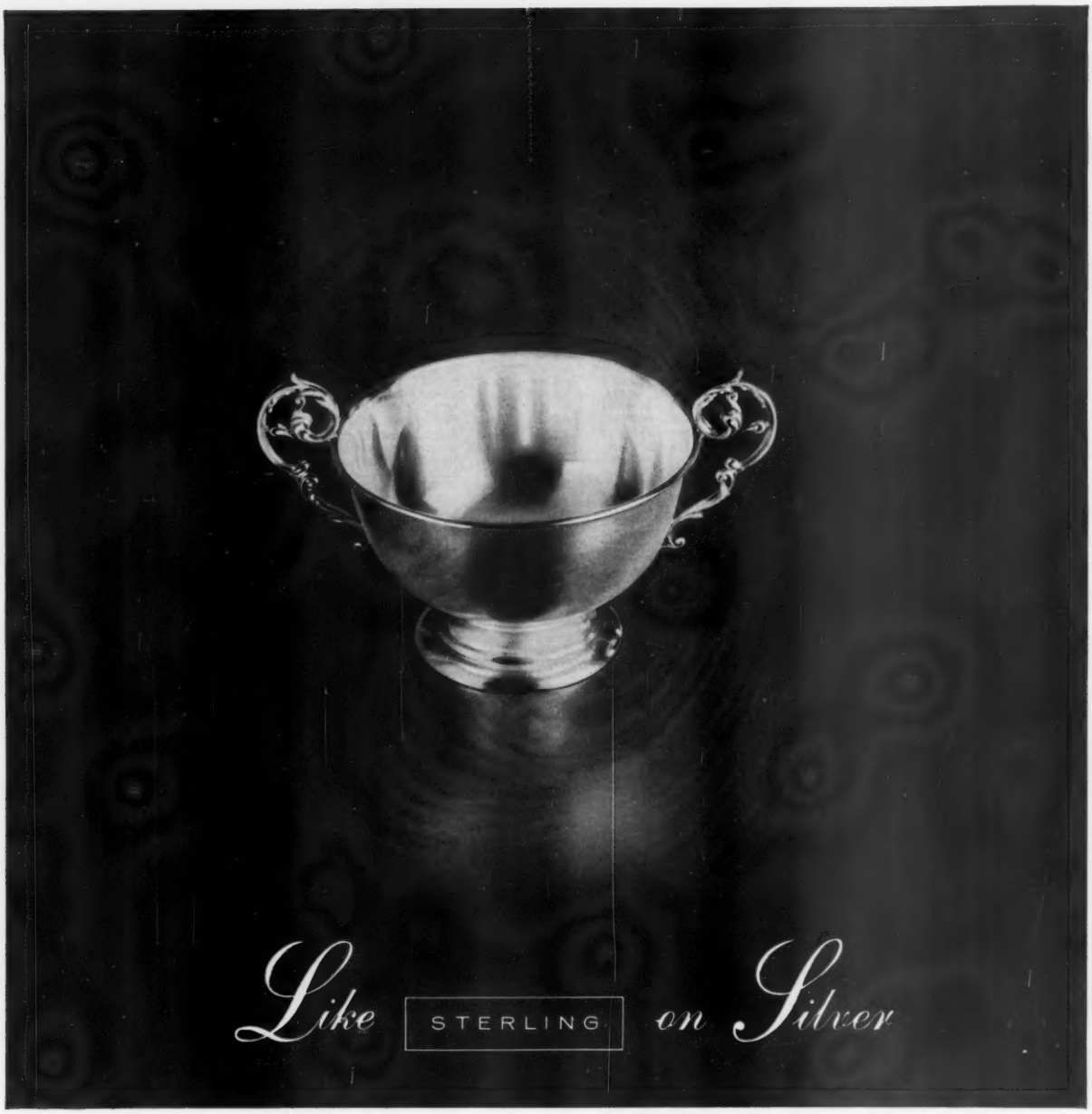
OBITUARY

A. C. Melanson, chief of motive power and car equipment of the **Canadian National** at Montreal, died October 14.

C. J. Merriam, 78, who retired in 1941 as senior assistant general auditor of the **Union Pacific,** died October 18 in a Los Angeles hospital, after a brief illness.

H. H. Holcomb, 90, former traffic vice-president of the **Burlington,** died October 19 at Hinsdale, Ill.

Ben F. Rice, 67, retired coal traffic manager of the **Wabash,** died October 19 at Moberly, Mo.



STERLING SILVER CHRISTENING BOWL BY REED AND BARTON

AUDITED PAID CIRCULATION ABC

This symbol means quality circulation. Only publications with paid circulations are members of ABC. They are worth the advertiser's dollar because they have proved to be worth the reader's dollar.

RAILWAY AGE is a charter member of ABC

Freight Operating Statistics of Large Railways—Selected Items

Region, Road and Year		Miles of road operated	Train-miles	Locomotive-Miles: Principal and helper	Locomotive-Miles: Light	Car-Miles: Loaded (thousands)	Car-Miles: Per cent loaded	Ton-miles (thousands): Gross excl. locos & tenders	Ton-miles (thousands): Net rev. and non-rev.	Road-locos. on line: Serviceable: Unstored	Road-locos. on line: Serviceable: Stored	Road-locos. on line: B.O.	Road-locos. on line: Per cent B.O.
New Eng. Region	Boston & Maine	1955	1,564	249,454	254,507	9,509	9,557	67.8	604,102	250,142	68	1	6	8.0
		1954	1,664	247,659	250,634	6,885	8,584	67.3	548,212	224,134	71	1	5	6.5
	N. Y., N. H. & Htfd.	1955	1,746	274,810	275,594	23,454	11,309	68.1	684,755	275,177	104	..	10	8.8
		1954	1,746	256,578	256,580	18,685	10,860	69.0	659,928	272,663	88	..	5	5.4
Great Lakes Region	Delaware & Hudson	1955	792	177,717	181,925	5,384	9,223	71.5	621,200	328,557	39	..	4	9.3
		1954	793	183,503	187,031	7,739	8,601	66.9	594,688	297,860	38	..	5	11.6
	Del., Lack. & Western	1955	962	276,048	287,959	22,006	13,008	72.4	837,158	383,170	62	..	1	1.6
		1954	962	271,045	280,342	24,112	11,412	66.2	749,932	317,196	62	..	2	3.1
	Erie	1955	2,224	606,866	611,065	19,183	33,196	68.3	2,064,319	819,499	161	..	3	1.8
		1954	2,225	551,102	554,059	19,712	30,713	68.1	1,893,273	730,150	162	..	1	.6
	Grand Trunk Western	1955	952	263,313	270,799	2,245	8,863	60.6	638,247	259,318	58	..	17	22.7
		1954	952	234,293	242,800	2,097	7,543	58.9	548,578	222,276	63	6	16	18.8
	Lehigh Valley	1955	1,138	214,598	216,541	6,988	10,414	68.9	712,171	342,625	35	..	..	..
		1954	1,150	206,155	209,703	6,253	10,245	65.6	701,767	320,176	29	3	1	3.0
	New York Central	1955	10,661	2,631,933	2,666,976	106,590	102,915	68.1	7,104,472	3,416,799	578	13	109	15.6
		1954	10,663	2,264,882	2,300,738	80,717	89,109	59.8	6,408,982	2,787,055	575	144	158	18.0
	New York, Chic. & St. L.	1955	2,154	748,184	771,708	7,200	31,585	67.4	2,188,889	1,017,636	184	3	22	10.5
		1954	2,161	671,595	699,706	6,093	27,574	63.4	1,954,906	843,819	134	39	50	22.4
	Pitts. & Lake Erie	1955	221	68,083	68,083	158	3,137	74.5	262,577	168,428	21	..	1	4.5
		1954	221	48,431	48,431	....	2,316	63.8	202,211	122,501	12	7	1	5.0
	Wabash	1955	2,381	549,996	551,436	6,310	24,395	66.1	1,582,442	611,954	102	..	1	1.0
		1954	2,381	506,701	509,047	6,795	22,360	65.5	1,423,098	535,218	103	..	..	..
Central Eastern Region	Baltimore & Ohio	1955	6,072	1,660,107	1,834,379	172,159	65,676	65.7	5,200,172	2,575,028	451	5	98	17.7
		1954	6,077	1,439,126	1,577,260	130,142	58,155	61.1	4,463,469	2,123,511	410	75	117	19.4
	Bessemer & Lake Erie	1955	208	57,110	62,107	210	3,139	59.2	380,589	246,793	16	..	..	..
		1954	209	41,440	44,165	215	2,421	72.7	252,845	168,718	15	..	..	..
	Central RR Co. of New Jersey	1955	613	112,715	113,326	5,066	4,263	67.4	314,770	166,064	64	..	2	3.0
		1954	613	121,044	121,806	6,326	4,563	65.1	339,216	166,814	59	2	4	6.2
	Chicago & Eastern Ill	1955	868	121,937	121,937	2,490	4,864	67.3	336,837	160,731	25	..	3	10.7
		1954	868	118,556	118,556	2,598	4,544	66.2	296,187	158,116	24	..	2	7.7
	Elgin, Joliet & Eastern	1955	236	84,658	84,905	....	2,675	65.4	214,773	117,862	37	1	3	7.3
		1954	236	71,705	72,194	....	2,283	64.0	178,351	94,846	33	8	2	4.7
	Pennsylvania System	1955	9,892	3,163,840	3,421,209	275,003	137,886	67.0	9,842,424	4,802,689	861	22	435	33.0
		1954	9,906	2,656,638	2,841,020	199,879	114,037	64.5	8,203,107	3,867,187	720	341	376	26.2
	Reading	1955	1,303	336,448	340,730	14,006	12,715	66.8	1,002,846	540,898	155	2	32	16.9
		1954	1,304	307,035	308,374	8,828	11,271	61.2	905,021	464,127	165	22	19	9.2
	Western Maryland	1955	846	172,957	179,964	10,436	7,146	64.7	602,495	346,155	36	..	..	..
		1954	857	147,051	152,013	7,800	5,535	63.0	457,894	254,339	35	44	1	1.3
Pocahontas Region	Chesapeake & Ohio	1955	5,046	1,571,447	1,606,468	50,004	68,879	57.5	6,028,378	3,402,445	395	8	109	
		1954	5,050	1,235,772	1,251,779	32,203	51,216	57.3	4,360,831	2,393,891	311	86	161	28.9
	Norfolk & Western	1955	2,104	736,601	785,984	64,977	36,436	57.6	3,408,375	1,866,437	221	17	21	8.1
		1954	2,113	599,836	631,973	43,845	27,611	57.4	2,532,949	1,355,107	197	46	29	10.7
Southern Region	Atlantic Coast Line	1955	5,278	779,652	779,652	8,920	23,613	61.9	1,686,974	786,336	234	..	7	2.9
		1954	5,340	710,760	710,760	7,982	21,286	59.4	1,553,776	709,913	240	..	7	2.8
	Central of Georgia	1955	1,731	191,026	191,053	1,718	7,581	67.8	521,006	250,341	75	..	2	2.6
		1954	1,731	177,442	177,468	1,902	6,987	68.4	472,336	223,681	69	..	1	1.4
	Gulf, Mobile & Ohio	1955	2,717	269,533	269,533	91	15,301	72.8	1,003,571	492,870	86	..	5	5.5
		1954	2,718	267,836	267,836	428	14,189	70.2	939,107	445,642	85	..	4	4.5
	Illinois Central	1955	6,531	1,252,968	1,255,049	38,672	51,991	62.3	3,827,173	1,788,398	407	36	194	30.5
		1954	6,537	1,215,918	1,220,192	38,725	47,578	62.8	3,449,296	1,590,662	464	113	90	13.5
	Louisville & Nashville	1955	4,715	924,830	938,836	19,183	33,764	61.9	2,587,065	1,338,562	186	16	10	4.7
		1954	4,720	836,855	840,855	15,726	30,233	61.5	2,277,579	1,146,442	221	84	8	2.5
	Nash., Chatt. & St. Louis	1955	1,043	167,560	170,683	3,383	5,555	72.0	360,360	173,455	49	..	4	7.5
		1954	1,043	162,649	165,797	3,483	5,393	70.5	350,278	163,759	49	..	4	7.5
	Seaboard Air Line	1955	4,053	570,256	570,256	829	22,415	64.1	1,603,618	744,061	133	..	8	5.7
		1954	4,053	545,276	545,276	598	21,129	63.9	1,505,828	698,513	141	..	10	6.6
	Southern	1955	6,264	938,559	938,619	13,588	43,054	69.7	2,758,510	1,284,392	271	..	2	.7
		1954	6,262	924,245	924,330	11,471	38,938	67.3	2,546,019	1,155,371	267	..	2	.7
Northwestern Region	Chicago & North Western	1955	7,795	790,159	793,324	11,886	36,003	65.6	2,506,688	1,080,090	151	9	24	13.0
		1954	7,850	762,698	764,655	10,799	32,788	63.6	2,319,607	1,000,034	167	36	55	21.3
	Chicago Great Western	1955	1,437	140,602	140,602	212	8,520	67.8	583,186	269,390	30	..	3	9.1
		1954	1,437	138,636	138,636	233	8,152	65.5	575,399	251,897	30	..	3	9.1
	Chic., Milw., St. P. & Pac.	1955	10,633	1,092,249	1,109,297	20,601	46,519	64.3	3,249,895	1,469,828	282	43	19	5.5
		1954	10,632	1,023,487	1,040,298	25,415	43,266	60.2	3,067,713	1,303,272	303	71	39	9.4
	Chic., St. P., Minn. & Omaha	1955	1,606	172,145	173,615	4,698	6,211	70.8	428,949	197,825	58	..	12	17.1
		1954	1,606	171,948	173,816	5,771	5,902	67.7	414,717	189,736	64	1	19	22.6
	Duluth, Missabe & Iron Range	1955	569	186,667	187,751	1,661	8,469	51.5	908,805	552,767	63	..	6	8.7
		1954	566	146,112	146,553	1,059	6,817	50.6	713,136	433,016	51	10	5	7.6
	Great Northern	1955	8,270	1,268,740	1,276,179	44,126	52,489	65.1	4,005,720	2,021,080	268	61	30	8.4
		1954	8,294	1,162,909	1,168,974	36,134	46,745	62.4	3,643,966	1,772,204	253	159	45	9.8
	Minneap., St. P. & S. Ste. M.	1955	4,171	412,727	415,205	2,965	14,176	67.9	1,037,360	495,824	82	11	3	3.1
		1954	4,169	416,801	421,775	5,554	14,726	64.2	1,024,098	487,122	97	2	17	14.7
	Northern Pacific	1955	6,570	931,600	948,805	23,815	31,685	64.6	2,271,447	1,026,613	285	33	59	15.6
		1954	6,570	924,734	951,341	35,722	35,995	60.0	2,708,366	1,147,151	299	18	56	15.0
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1955	13,098	2,468,549	2,570,074	70,127	110,239	65.6	7,397,157	2,878,460	513	77	40	6.3
		1954	13,076	2,137,511	2,201,651	51,593	93,011	65.2	6,188,205	2,362,294	511	117	38	5.7
	Chic., Burl. & Quincy	1955	8,773	1,210,229	1,205,490	31,517	50,826	65.9	3,437,799	1,500,241	198	37	32	12.0
		1954	8,824	1,178,841	1,176,526	28,504	48,131	65.2	3,196,253	1,378,342	242	60	36	10.7
	Chic., Rock I. & Pac.	1955	7,904	887,930	882,527	909	34,696	63.1	2,502,973	1,082,170	166	3	6	3.4
		1954	7,860	879,040	872,940	1,530	32,122	60.7	2,371,024	1,004,572	165	4	6	3.4
	Denver & R. G. Wn	1955	2,165	337,949	363,571	37,521	16,906	71.3	1,140,202	536,146	65	25	25	21.7
		1954	2,164	342,388	366,361	34,326	15,362	69.3	1,050,216	475,461	84	30	26	18.6
	Southern Pacific	1955	8,068	2,602,630	2,724,899	257,764	115,512	63.8	7,932,730	3,132,222	716	9	99	12.0
		1954	8,063	2,251,192	2,368,519	275,171	97,478	62.0	6,847,096	2,684,525	666	10	155	18.7
	Union Pacific	1955	9,813	2,790,294	2,858,454	145,546	126,271	64.2	8,450,554	3,387,362	492	74	102	15.3
		1954	9,816	2,731,534	2,790,875	127,676	115,724	63.0	7,826,798	3,077,426	504	201	113	13.8
	Western Pacific	1955	1,190	269,442	279,445	10,779	12,298	72.9	757,211	331,245	43	..	..	..
		1954	1,190	235,284	238,393	8,501	11,230	73.0	700,067	320,320	39	3	1	2.3
Southwestern Region	International-Gt. Northern*	1955	1,104	138,577	138,577	....	5,839	65.8	424,988	201,158	39	..	2	4.9
		1954	1,103	127,301	127,301	....	4,984	64.6	372,994	171,212	42	..	3	6.7
	Kansas City Southern	1955	886	150,611	150,611	88	8,833	69.0	621,623	284,778	26	..	2	7.1
		1954	886	136,900	136,946	251	7,445	64.6	530,678	232,513	25	..	3	10.7
	Mo.-Kans.-Texas Lines	1955	3,230	348,559	348,559	3,613	14,698	65.1	978,120	427,801	88	..	..	..
		1954	3,229	340,745	340,745	3,628	13,137	63.3	863,218	352,518	87	..	..	..
	Missouri Pacific*	1955	6,892	1,010,887	1,010,887	10,864	45,407	67.5	3,048,797	1,374,595	233	56	32	10.0
		1954	6,887	964,398	965,703	10,786	39,773	66.3	2,737,368	1,210,717	229	60	85	22.7
	Texas & Pacific	1955	1,822	318,664	318,664	3,109	14,191	65.2	996,817	394,453	58	..	2	3.3
		1954	1,822	299,195	299,195	2,805	12,920	64.7	886,991	345,999	59	..	2	3.3
	St. Louis-San Francisco	1955	4,573	600,459	600,459	5,730	24,208	66.1	1,613,553	715,254	116	..	7	5.7
		1954	4,564	581,227	581,227	5,562	21,947	63.6	1,491,887	643,235	120	..	11	8.4
	St. Louis Southw. Lines	1955	1,554	318,701	318,701	1,535	15,137	73.2	931,046	416,191	55	1	11	16.4
		1954	1,555	281,072	281,078	1,365	12,423	72.1	757,995	338,834	55	7	10	13.9
	Texas & New Orleans	1955	4,302	723,169	723,169	3,630	29,014	65.5	1,995,504	875,581	138	..	2	1.4
		1954	4,275	675,976	675,976	4,918	25,807	62.7	1,806,077	763,325	153	..	28	15.5

For the Month of August 1955 Compared with August 1954

Region, Road and Year		Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m.per train-hr. excl.locos and tenders	G.t.m.per train-mi. excl.locos and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car-miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day
New Eng. Region	Boston & Maine	1955	2,031	9,998	12,029	4.2	34,966	2,427	1,005	26.2	671	37.8	5,159	14.4	130.6
		1954	2,762	7,258	10,020	5.3	35,960	2,220	907	26.1	753	42.8	4,345	16.2	121.6
	N. Y., N. H. & Htfd	1955	1,905	21,287	23,192	1.7	37,203	2,492	1,001	24.3	388	23.4	5,084	14.9	112.9
		1954	2,888	12,655	15,543	3.2	41,063	2,572	1,063	25.1	599	34.6	5,038	16.0	119.4
Great Lakes Region	Delaware & Hudson	1955	2,248	5,545	7,793	4.7	59,286	3,512	1,857	35.6	1,265	49.7	13,382	17.0	156.0
		1954	7,249	3,900	11,149	5.4	62,533	3,260	1,633	34.6	864	37.3	12,117	19.3	157.1
	Del. Lack. & Western	1955	4,347	12,991	17,338	2.8	48,273	3,098	1,418	29.5	754	35.3	12,849	15.9	176.4
		1954	8,449	8,294	16,743	4.3	48,202	2,828	1,196	27.8	617	33.5	10,636	17.4	170.5
	Erie	1955	7,523	19,611	27,134	3.5	61,189	3,431	1,362	24.7	990	58.7	11,886	18.0	138.8
		1954	12,587	14,549	27,136	5.6	65,504	3,466	1,337	23.8	852	52.7	10,586	19.1	125.8
	Grand Trunk Western	1955	3,744	10,615	14,359	10.9	50,248	2,438	990	29.3	593	33.5	8,787	20.7	129.3
		1954	5,202	7,575	12,777	5.4	49,235	2,371	961	29.5	549	31.6	7,532	21.0	105.4
	Lehigh Valley	1955	7,611	9,447	17,058	1.8	62,063	3,398	1,635	32.9	658	29.0	9,712	18.7	220.4
		1954	10,192	7,442	17,634	5.6	67,020	3,446	1,572	31.3	606	29.5	8,981	19.7	226.0
	New York Central	1955	52,359	102,782	155,141	4.8	46,897	2,736	1,316	33.2	727	32.1	10,339	17.4	144.7
		1954	81,606	71,817	153,423	13.1	49,919	2,882	1,253	31.3	584	31.2	8,431	17.6	98.2
	New York, Chic. & St. L.	1955	6,470	18,545	25,015	7.1	50,324	3,008	1,399	32.2	1,346	62.0	15,240	17.2	132.7
		1954	11,213	12,464	23,677	8.2	53,848	2,958	1,277	30.6	1,148	59.1	12,596	18.5	112.2
	Pitts. & Lake Erie	1955	2,726	10,003	12,729	3.8	61,335	3,880	2,489	53.7	435	10.9	24,584	15.9	109.4
		1954	10,432	5,594	16,026	7.5	60,452	4,175	2,529	52.9	243	7.2	17,881	14.5	87.1
	Wabash	1955	8,796	10,566	19,362	6.9	61,053	2,888	1,117	25.1	1,034	62.4	8,291	21.2	185.9
		1954	9,957	9,092	19,049	9.9	62,469	2,829	1,062	23.9	895	57.1	7,251	22.2	170.4
Central Eastern Region	Baltimore & Ohio	1955	40,317	47,242	87,559	10.9	47,230	3,188	1,579	39.2	919	35.7	13,680	15.1	123.2
		1954	59,576	35,452	95,028	14.6	49,194	3,140	1,494	36.5	714	32.0	11,272	15.9	95.1
	Bessemer & Lake Erie	1955	3,253	1,381	4,634	17.3	100,578	6,819	4,422	78.6	1,685	36.2	38,274	15.1	142.0
		1954	6,512	960	7,472	13.5	87,158	6,265	4,181	69.7	726	14.3	26,041	14.3	111.3
	Central RR Co. of New Jersey	1955	2,662	10,235	12,897	6.5	38,261	2,919	1,540	39.0	420	16.0	8,739	13.7	80.3
		1954	5,893	8,842	14,735	12.0	38,977	2,926	1,439	36.6	368	15.5	8,778	13.9	85.8
	Chicago & Eastern Ill	1955	2,746	3,043	5,789	8.6	44,864	2,777	1,325	33.0	981	44.1	5,973	16.2	153.7
		1954	3,209	2,752	5,961	13.5	44,707	2,513	1,342	34.8	848	36.8	5,876	17.9	155.4
	Elgin, Joliet & Eastern	1955	7,048	8,999	16,047	5.0	20,262	2,631	1,444	44.1	232	8.1	16,110	8.0	88.2
		1954	7,934	6,224	14,158	7.6	22,505	2,574	1,369	41.5	215	8.1	12,964	9.0	72.5
	Pennsylvania System	1955	99,977	96,897	196,874	10.0	51,785	3,210	1,566	34.8	785	33.6	15,662	16.6	99.3
		1954	115,914	86,194	202,108	11.5	55,017	3,175	1,497	33.9	617	28.2	12,593	17.8	74.9
	Reading	1955	11,581	18,409	29,990	5.2	45,790	2,982	1,608	42.5	611	21.5	13,391	15.4	71.1
		1954	19,277	12,764	32,041	8.3	42,495	2,951	1,513	41.2	466	18.5	11,481	14.4	60.4
	Western Maryland	1955	3,718	6,056	9,774	4.3	48,686	3,525	2,025	48.4	1,206	38.5	13,199	14.0	183.0
		1954	7,430	3,259	10,689	4.0	44,936	3,178	1,765	46.0	814	28.1	9,573	14.4	72.1
Pocahontas Region	Chesapeake & Ohio	1955	46,356	36,766	83,122	2.2	70,722	3,863	2,180	49.4	1,312	46.2	21,751	18.4	104.3
		1954	58,389	22,600	80,989	3.9	66,647	3,543	1,945	46.7	977	36.5	15,292	18.9	80.3
	Norfolk & Western	1955	29,466	9,581	39,047	1.6	78,576	4,750	2,601	51.2	1,542	52.2	28,616	17.0	113.3
		1954	39,387	6,413	45,800	2.8	74,650	4,319	2,310	49.1	957	33.9	20,688	17.7	86.1
Southern Region	Atlantic Coast Line	1955	18,142	14,659	32,801	4.5	40,851	2,174	1,013	33.3	777	37.6	4,806	18.9	115.9
		1954	21,106	14,077	35,183	2.6	38,944	2,194	1,002	33.4	666	33.6	4,288	17.8	104.0
	Central of Georgia	1955	2,774	6,896	9,670	3.2	46,942	2,742	1,318	33.0	855	38.2	4,665	17.2	89.4
		1954	3,307	5,314	8,621	5.6	47,624	2,671	1,265	32.0	878	40.1	4,168	17.9	88.8
	Gulf, Mobile & Ohio	1955	4,756	9,571	14,327	3.2	70,239	3,727	1,830	32.2	1,098	46.8	5,852	18.9	104.3
		1954	5,691	8,378	14,069	3.7	68,860	3,511	1,166	31.4	1,020	46.3	5,289	19.6	105.0
	Illinois Central	1955	22,772	28,284	51,056	2.5	50,279	3,090	1,444	34.4	1,128	52.6	8,833	16.5	71.3
		1954	29,859	21,518	51,377	3.5	48,109	2,870	1,323	33.4	999	47.6	7,849	17.0	66.2
	Louisville & Nashville	1955	25,262	14,466	39,728	6.9	46,684	2,805	1,451	39.6	1,118	45.5	9,158	16.7	154.1
		1954	38,218	11,019	49,237	2.8	47,335	2,729	1,374	37.9	748	32.0	7,835	17.4	96.8
	Nash., Chatt. & St. Louis	1955	3,548	3,717	7,265	4.9	39,358	2,152	1,036	31.2	758	33.8	5,365	18.3	117.5
		1954	3,715	3,172	6,887	3.8	40,997	2,155	1,007	30.4	769	36.0	5,065	19.0	111.0
	Seaboard Air Line	1955	11,576	14,021	25,597	3.1	51,285	2,846	1,321	33.2	954	44.8	5,922	18.2	151.7
		1954	14,065	10,634	24,699	2.4	51,262	2,799	1,298	33.1	915	43.3	5,560	18.6	137.4
	Southern	1955	15,739	24,978	40,717	3.7	49,812	2,949	1,373	29.8	1,003	48.3	6,614	16.9	123.9
		1954	19,187	23,827	43,014	4.0	48,494	2,767	1,256	29.7	866	43.4	5,952	17.6	121.8
Northwestern Region	Chicago & North Western	1955	16,489	33,117	49,606	5.5	55,040	3,233	1,393	30.0	720	36.6	4,470	17.3	151.4
		1954	20,702	31,456	52,158	5.6	51,201	3,133	1,351	30.5	651	33.6	4,109	16.8	105.1
	Chicago Great Western	1955	1,418	4,468	5,886	3.3	76,735	4,156	1,920	31.6	1,417	66.1	6,047	18.5	143.5
		1954	1,867	4,385	6,252	3.2	77,183	4,156	1,819	30.9	1,330	65.7	5,655	18.6	141.5
	Chic., Milw., St. P. & Pac.	1955	29,087	34,381	63,468	6.0	55,334	2,985	1,350	31.6	760	37.4	4,459	18.6	118.2
		1954	38,302	32,012	70,314	7.0	53,782	3,013	1,280	30.1	610	33.7	3,954	17.9	91.2
	Chic., St. P., Minn. & Omaha	1955	1,178	8,976	10,154	2.5	34,253	2,538	1,171	31.9	651	28.9	3,973	13.7	88.7
		1954	1,106	8,161	9,267	4.6	33,442	2,487	1,138	32.1	687	31.5	3,811	13.9	77.1
	Duluth, Missabe & Iron Range	1955	13,134	899	14,033	2.2	84,032	5,217	3,173	65.3	1,265	37.6	31,338	17.3	105.1
		1954	14,030	713	14,743	2.3	85,283	5,193	3,153	63.5	943	29.3	24,679	17.5	81.4
	Great Northern	1955	21,493	25,866	47,359	2.6	55,652	3,213	1,621	38.5	1,451	57.9	7,883	17.6	123.0
		1954	25,147	27,778	52,925	2.6	53,761	3,173	1,543	37.9	1,099	46.5	6,893	17.2	91.4
	Minneap., St. P. & S. Ste. M.	1955	6,458	9,631	16,089	5.9	50,660	2,534	1,211	35.0	1,037	43.7	3,835	20.2	152.8
		1954	6,916	6,381	13,297	5.8	47,692	2,484	1,182	33.1	1,084	51.1	3,769	19.4	125.7
	Northern Pacific	1955	18,345	22,498	40,843	6.5	45,637	2,445	1,105	32.4	859	41.0	5,041	18.7	90.6
		1954	21,985	22,597	44,582	5.3	53,221	2,941	1,246	31.9	873	45.7	5,632	18.2	91.5
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1955	54,189	31,148	85,337	3.6	67,563	3,013	1,172	26.1	1,047	61.1	7,089	22.5	143.5
		1954	60,353	28,199	88,552	3.8	65,930	2,906	1,110	25.4	849	51.3	5,828	22.8	115.8
	Chic., Burl. & Quincy	1955	20,996	24,112	45,108	3.3	56,454	2,486	1,242	29.5	1,081	55.6	5,516	19.9	155.0
		1954	21,885	24,916	46,801	3.1	55,513	2,718	1,172	28.6	945	50.6	5,039	20.5	119.7
	Chic., Rock I. & Pac.	1955	11,265	20,717	31,982	5.8	54,357	2,828	1,223	31.2	1,053	53.5	4,417	19.3	172.0
		1954	13,170	16,844	30,014	6.2	51,247	2,704	1,146	31.3	1,061	55.9	4,123	19.0	167.8
	Denver & R. G. Wn.	1955	7,561	9,837	17,398	3.0	62,323	3,381	1,590	31.7	1,026	45.4	7,988	18.5	119.4
		1954	8,641	7,205	15,846	3.8	58,391	3,074	1,392	31.0	972	45.3	7,088	19.0	99.3
	Southern Pacific	1955	29,356	51,418	80,774	1.5	55,488	3,086	1,219	27.1	1,256	72.6	12,523	18.2	128.3
		1954	33,054	36,752	69,806	2.0	56,516	3,075	1,206	27.5	1,215	71.1	10,740	18.6	110.9
	Union Pacific	1955	29,513	35,915	65,428	2.5	78,361	3,051	1,223	26.8	1,661	96.5	11,135	25.9	148.5
		1954	34,181	35,670	69,851	2.6	75,535	2,899	1,140	26.6	1,386	82.7	10,113	26.4	117.3
	Western Pacific	1955	2,059	3,866	5,925	2.4	69,482	2,831	1,239	26.9	1,863	94.9	8,979	24.7	231.6
		1954	2,633	3,294	5,927	4.9	77,159	2,984	1,366	28.5	1,768	84.9	8,683	25.9	189.2
Southwestern Region	International-Gt. Northern*	1955	886	6,614	7,500	3.4	62,738	3,074	1,455	34.5	869	38.3	5,878	20.5	114.8
		1954	725	5,719	6,444	2.4	56,738	2,931	1,345	34.4	874	39.4	5,007	19.4	95.8
	Kansas City Southern	1955	1,147	6,520	7,667	2.5	87,491	4,134	1,894	32.2	1,194	53.7	10,368	21.2	204.7
		1954	1,103	5,821	6,924	4.0	79,229	3,895	1,706	31.2	1,040	51.6	8,465	20.4	180.7
	Mo.-Kans.-Texas Lines	1955	4,031	7,492	11,523	8.3	54,920	2,811	1,230	29.1	1,159	61.2	4,272	19.6	139.4
		1954	4,859	6,185	11,044	8.3	53,646	2,540	1,037	26.8	1,032	60.7	3,522	21.2	136.3
	Missouri Pacific*	1955	16,032	18,808	34,840	2.7	67,580	3,038	1,370	30.3	1,241	60.8	6,434	22.4	108.4
		1954	20,178	17,097	37,275	4.7	61,826	2,848	1,259	30.4	1,001	49.5	5,671	21.8	89.9
	Texas & Pacific	1955	2,732	6,213	8,945	3.0	71,962	3,134	1,240	27.8	1,397	77.1	6,984	23.0	179.7
		1954	3,450	5,541	8,991	5.2	67,922	2,975	1,160	26.8	1,242	71.6	6,126	22.9	170.9
	St. Louis-San Francisco	1955	10,318	12,451	22,769	3.9	53,422	2,691	1,193	29.5	1,014	51.9	5,045	19.9	168.4
		1954	14,865	9,851	24,716	3.0	49,665	2,569	1,108	29.3	860	46.1	4,546	19.3	158.6
	St. Louis Southw. Lines	1955	1,810	4,492	6,302	1.6	57,479	2,925	1,308	27.5	2,078	103.3	8,639	19.7	163.3
		1954	2,685	4,162	6,847	4.9	53,584	2,702	1,208	27.3	1,630	82.8	7,029	19.9	137.7
	Texas & New Orleans	1955	5,420	18,196	23,616	1.9	55,764	2,776	1,218	30.2	1,240	62.7	6,565	20.2	180.0
		1954	6,952	17,018	23,970	1.8	53,354	2,690	1,137	29.6	1,084	58.4	5,760	20.0	128.0

* Report of trustee or trustees.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

CLASSIFIED ADVERTISEMENTS

FOR SALE
RAILWAY EQUIPMENT
Used—As Is—Reconditioned

RAILWAY CARS
All Types

—•—

"Service-Tested"
FREIGHT CAR REPAIR PARTS
For All Types of Cars

—•—

LOCOMOTIVES
Diesel, Steam, Gasoline, Diesel-Electric

RAILWAY TANK CARS and STORAGE TANKS
6,000 - 8,000 and 10,000-gallon
Cleaned and Tested

SPECIAL OFFERING
1—80-Ton 0-6-0
Lima Steam Switching Locomotive
Excellent I.C.C. Condition

RAILS
New or Relaying

IRON & STEEL PRODUCTS, INC.
"ANYTHING containing IRON or STEEL"

General Office
13486 So. Brainard Ave.
Chicago 33, Illinois
Phone: Mitchell 6-1212

New York Office
50-c Church Street
New York 7, New York
Phone: BEekman 3-8230

Robert W. Hunt Company
ENGINEERS
Inspection—Tests—Consultation
All Railway Equipment
Structures and Materials
General Offices:
175 W. Jackson Boulevard
CHICAGO
New York-Pittsburgh-St. Louis

Educational Services for RAILROAD MEN
Our New Service on Diesel Locomotive Operation is highly recommended for Engineers and Firemen
The Railway Educational Bureau
Omaha 2, Nebraska

FOR SALE
R. R. EQUIPMENT
Immediate Delivery

• **REPAIRED** • **REBUILT** • **or "AS IS"**

Hopper Cars—Tank Cars—Flat Cars—Gondola Cars
50 and **70** Ton Capacities

Tank Car Storage Tanks—Locomotives and Locomotive Cranes
All work on cars executed in our own modern and well-equipped plant at Landisville (Lancaster County), Pennsylvania.

RAIL & INDUSTRIAL EQUIPMENT CO., INC.
30 Church Street
NEW YORK 7, N. Y.
RR Yard & Shops
LANDISVILLE, PA.

FOR SALE
20,000 Relayer Tie Plates 9 x 7 x ½ Punched 4 holes for 85# ASCE or 100# ARAB.
M. K. FRANK
480 Lexington Avenue
New York 17, N.Y.

FOR SALE
2—Whiting Drop Pit Tables, 35-Ton Type B, 2 screw, new. Bargains.
1—ATLAS 50 ton Diesel elec. locomotive.
1—ORTON 40 ton diesel loco. crane.
1—Burro, Model 13 Crane.
R. H. BOYER
2005-13 W. Bellevue Street
PHILADELPHIA 40, PA.

FOR SALE
DIESEL LOCOMOTIVES & CRANES 45 TON G.E., 65 TON WHITCOMB 25 TON G.E., 35 TON PORTER 25 TON AMERICAN LOCO. CRANE
DARIEN CORP.
60 E. 42nd St. New York 17, N.Y.

FOR SALE
We Own and Offer For Sale At Very Attractive Prices—

CLASS III TANK CARS

6—8000 Gal. 3 Compartment Coiled

9—8000 Gal. 3 Compartment Non-Coiled

87—6000 Gal. Single Compartment Non-Coiled

246—8000 Gal. Single Compartment Non-Coiled

All in Interchange Condition. If you need Tank Cars don't miss this buying opportunity.

Don't wait—Phone-Wire-Write

HYMAN-MICHAELS COMPANY
108 North State St. Chicago 2, Ill.
'Phone: DEarborn 2-5422

Complete Service in Stainless and Carbon Steels

CHICAGO STEEL SERVICE COMPANY

The House of Stainless — STEEL AT YOUR SERVICE

Kildare Avenue at 45th Street • Chicago 32, Illinois • Telephone LAfayette 3-7210

Milwaukee District Office: 757 N. Broadway, Milwaukee 2, Wisc. BRoadway 2-7874 • *Minneapolis District Office:* 3501 Hennepin Ave., Minneapolis 8, Minn. COlfax 2602

Sales Representatives at Bloomington and Rockford, Ill.; Indianapolis and South Bend, Ind.; Cedar Rapids and Bettendorf, Iowa; Grand Rapids Mich.; Fond du Lac, Wisc.

ADVERTISERS IN THIS ISSUE

American Creosoting Co., Inc. 20
Agency—Russell T. Gray, Inc.
Anaconda Wire & Cable Co. 40, 41
Agency—Kenyon & Eckhardt, Inc.
Armco Steel Corp. .....Inside Front Cover
Agency—N. W. Ayer & Son, Inc.
Budd Company, The 18, 19
Agency—Lewis & Gilman, Inc.
Byers Company, A. M. .....Front Cover
Agency—Ketchum, MacLeod & Grove, Inc.
Chicago Steel Service Co. 52
Agency—Fred H. Ebersold, Inc.
Colorado Fuel & Iron Corp. 38, 39
Agency—Doyle, Kitchen & McCormick, Inc.
Dearborn Chemical Company 11
Agency—The Buchen Company
Edgewater Steel Co. 6
Agency—Walker & Downing
Fairbanks-Morse & Co. 44, 45
Agency-The Buchen Co.
Frank, M. K. 52
General Railway Signal Company .....Back Cover
Iron & Steel Products, Inc. 52
Miner, Inc., W. H. 1
National Malleable & Steel Castings Company 22
Agency—Palm & Patterson, Inc.
Rail & Industrial Equipment Co. 52
Agency—Gotham-Vladmir Advertising, Inc.
Railway Educational Bureau 52
Safety Car Heating & Lighting Co. 43
Agency—J. C. Bull, Inc.
Simtex Mills 4
Agency—Ellington & Company, Inc.
Union Switch & Signal Division of Westinghouse Air Brake Company 2
Agency—Batten, Barton, Durstine & Osborn, Inc.
Waugh Equipment Company 14, 15
Westinghouse Air Brake Company .....Inside Back Cover
Agency—Batten, Barton, Durstine & Osborn, Inc.
Whiting Corporation 17
Agency—Waldie & Briggs

Engineer's "guide to better handling"

The Westinghouse Type "B" Brake Pipe Flow Indicator is just a small instrument but it gives the engineer a great deal of information as to what is happening in the brake pipe of his train. Our representatives will be glad to tell you all about it.

Westinghouse Air Brake
COMPANY

AIR BRAKE DIVISION WILMERDING, PA.

these leading railroads chose...

G·R·S YARD AUTOMATION

TO SPEED SHIPMENTS
PROTECT CARS & LADING
CUT YARD EXPENSES

G-R-S Yard Automation provides automatic control of retarders and switches. Radar "eyes" and electronic computers regulate car speeds with precision which excels human capabilities. Like the railroads shown here, you can improve service, cut expenses, and better *your* competitive position with G-R-S Yard Automation.

GRS

GENERAL RAILWAY SIGNAL COMPANY

2780

ROCHESTER 2, NEW YORK • NEW YORK 17, NEW YORK • CHICAGO 3, ILLINOIS • ST. LOUIS 1, MISSOURI